ImageQuest

L19T

TFT LCD COLOR MONITOR

TECHNICAL SERVICE MANUAL

HYUNDAI

1 FORWORD

This document defines design and performance requirements for Hyundai 19.0" On Screen Displa Color TFT LCD monitor L19T. It is capable of displaying maximum 1,280 horizontal dots and 102 vertical lines resolution image.

It also offers Power Management and DDC2B features according to VESA proposal.

2 GENERAL DESCRIPTION

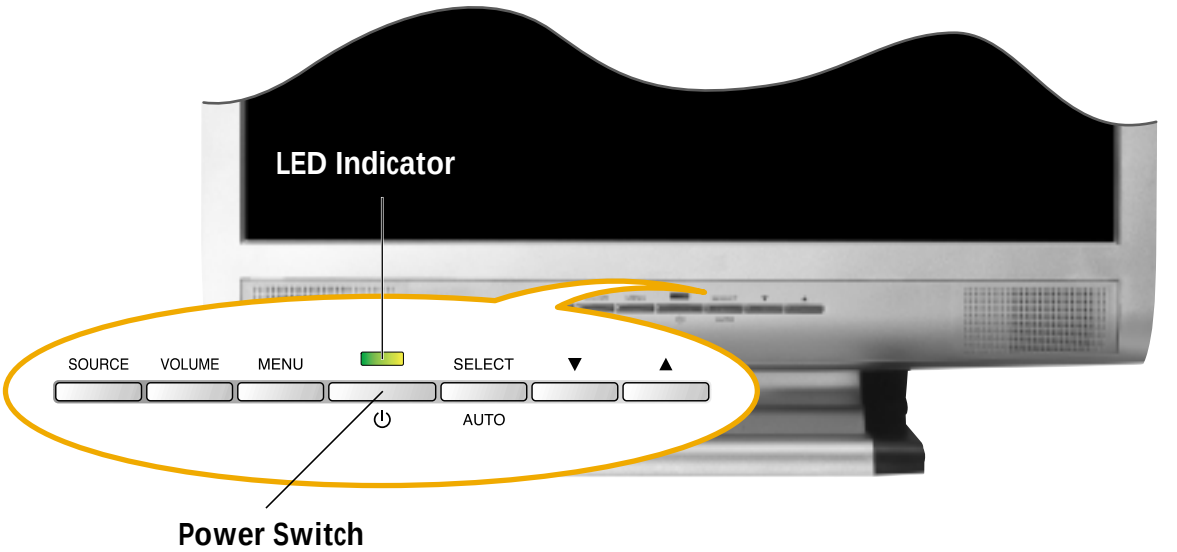
The monitor described in the followings is based on a multi- scanning, digital control display, 19.0 inches diagonal. The monitor is intended to be a finished product, basically a display device mounte inside a plastic enclosure which will provide the aesthetic, ergonomic and safety requirements.

2.1 LCD Descriptions

- ¬ Model Name : LTM190EI-L01
- ¬ Display Area : 376.32(H) x 301.056(V) mm
- ¬ Drive system : A - Si TFT active matrix
- ¬ Display Colors : 16.777.216 Colors
- ¬ Number of pixels : 1280 x 1024
- ¬ Module Size : 404.2 (H) x 330.0(V) x 20.0 typ. (D) mm
- ¬ Weight : 2,700g (TYP.)
- ¬ Contrast ratio : 500:1 (Typ.)
- ¬ Luminance : 250cd/m ′ (Typ)

Control Description

Front View



ELECTRICAL CHARACTERISTICS

3.1 Analog R.G.B Input

The input signal shall be applied to the display device through a signal cable, which must be intended as part of the monitor.
A signal connector shall be a shielded 15pin D- Sub connector and signal cable shall be Black or White, 1.50 ± 0.05 meter long.

The interfacing method described above requires 7 input lines :

1 - Red (red video)
2 - Green (green video)
3 - Blue (blue video)
4 - H Sync (horizontal synchronization)
5 - V Sync (vertical synchronization)
6 - SDA
7 - SCL

The reference video controller (the device used for adjustment and test) will guarantee the performances described below (measured on the output connector).

Video signals on 75 ohm termination to the ground
Red, Green & Blue Video (refer to Fig.3.01)
Level : 0 to 0.700 Vpp
Polarity : Positive

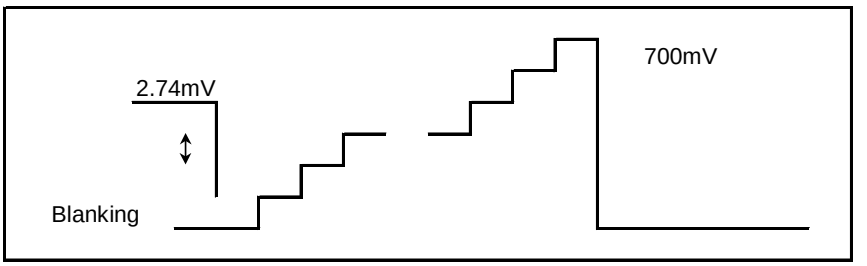


Fig. 3.01 - Video Signal

Synchronization signals

Polarity : Positive or Negative

This monitor shall not be demaged by improper sync timing and pulse duration, absence of sync, or abnormal input amplitude (video and/or sync too large too small).

3.1.1 Horizontal Scan

Pixel Sampling Frequency : 25.056 ~ 135MHz

H sync Frequency : 31.0 ~ 80 KHz

3.1.2 Vertical Scan

Scanning Frequency : 56 ~ 75.0Hz

3.1.3 Timing

This monitor shall be capable of displaying following video timing chart.

* Timing Chart

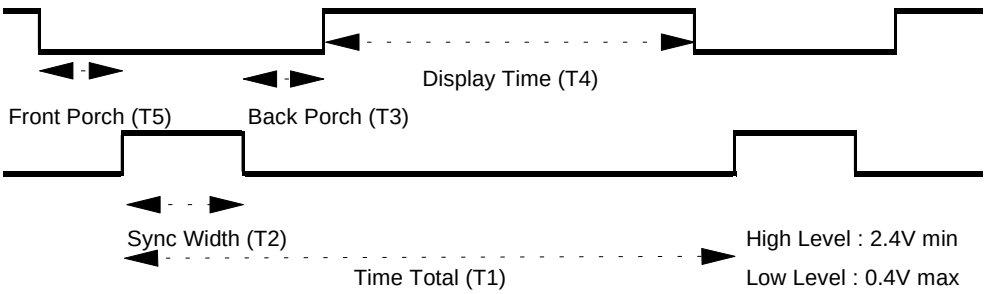


Fig. 3.02 - H-Sync

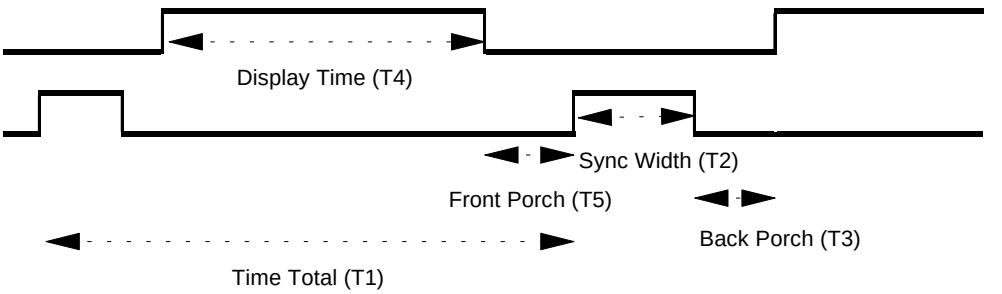


Fig. 3.03 - V-Sync

3.1.4 Support Modes

No.	Resolution	H Frequency (kHz)	Vfreq (Hz)	H polarity	V polarity	Dot Clock (MHz)
1	720 x 400	31.5	70.1	0	1	28.322
2	640 x 480	31.5	59.9	0	0	25.175
3	640 x 480	37.5	75	0	0	31.500
4	800 x 600	35.2	56.3	1	1	36.000
5	800 x 600	37.9	60.3	1	1	40.000
6	800 x 600	48.1	72.2	1	1	50.000
7	800 x 600	46.9	75.0	1	1	49.500
8	832 x 624	49.725	74.55	0	0	57.283
9	1024 x 768	48.4	60.0	0	0	65.000
10	1024 x 768	56.5	70.1	0	0	75.000
11	1024 x 768	60.0	75.0	1	1	78.750
12	1152 x 864	67.5	75	1	1	108.000
13	1280 x 1024	63.9	60.0	1	1	108.000
14	1280 x 1024	80.0	75	1	1	135.000

Table 3-01. Support Modes

3.1.5 Preset Timing

The timing shown in the following table will be factory preset for display.

- *Preset-mode table*

The timing shown in the following table will be factory preset for display.

Horizontal	**Pixel**	**720**	**640**	**640**	**800**	**800**	**800**	**800**	**832**	**1024**	**1024**	**1024**	**1152**	**1280**	**1280**
Pixel Clock	MHz	28.322	25.175	31.500	36.000	40.000	49.500	50.000	57.283	65.000	75.000	78.750	108.00	108.00	135.00
Frequency	kHz	31.469	31.469	37.500	35.156	37.879	46.875	48.077	49.725	48.363	56.476	60.023	67.500	63.981	79.976
Period (T1)	ˋ	31.777	31.778	26.667	28.444	26.400	21.333	20.800	20.111	20.677	17.707	16.660	14.815	15.630	12.504
Active (T4)	ˋ	25.422	25.422	20.317	22.222	20.000	16.162	16.000	14.524	15.754	13.653	13.003	10.667	11.852	9.481
Sync Width (T2)	ˋ	3.813	3.813	2.032	2.000	3.200	1.616	2.400	1.117	2.092	1.813	1.219	1.185	1.037	1.067
Back Porch (T3)	ˋ	1.907	1.907	3.810	3.556	2.200	3.232	1.280	3.910	2.462	1.920	2.235	2.370	2.296	1.837
Front Porch (T5)	ˋ	0.636	0.636	0.508	0.667	1.000	0.323	1.120	0.558	0.369	0.320	0.203	0.593	0.444	0.119
Vertical	**Lines**	**400**	**480**	**480**	**600**	**600**	**600**	**600**	**624**	**768**	**768**	**768**	**864**	**1024**	**1024**
Frequency	Hz	70.087	59.940	75.000	56.250	60.317	75.000	72.188	74.55	60.004	70.069	75.029	75.000	60.020	75.025
Period (T1)	ˊ	14.268	16.683	13.333	17.778	16.579	13.333	13.853	13.414	16.666	14.272	13.328	13.333	16.661	13.329
Active (T4)	ˊ	12.711	15.253	12.800	17.067	15.840	12.800	12.480	12.549	15.880	13.599	12.795	12.800	16.005	12.804
Sync Width (T2)	ˊ	0.064	0.064	0.080	0.057	0.106	0.064	0.125	0.060	0.124	0.106	0.050	0.044	0.047	0.038
Back Porch (T3)	ˊ	1.112	1.048	0.427	0.626	0.607	0.448	0.478	0.784	0.600	0.513	0.466	0.474	0.594	0.475
Front Porch (T5)	ˊ	0.381	0.318	0.027	0.028	0.026	0.021	0.770	0.020	0.062	0.053	0.017	0.015	0.016	0.013
Interlaced Y	/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sync Polarity	H	-	-	-	+	+	+	+	-	-	-	+	+	+	+
	V	+	-	-	+	+	+	+	-	-	-	+	+	+	+

Table 3-02. Preset-Timings

3.1.6 Brightness

Definitions :

Brightness This control is mainly intended as a raster luminance adjustment.

Setting of User Controls		Luminance Limits
Brightness	**Contrast**	**Data/Active area**
Min	Min	*
Max	Max	≤ 180 cd/m^2

Table 3.03. Luminance Limits

Legend :

* Don't care
Full White screen @ 700mV video level, 1280x1024 resolution at
H : 64kHz, V : 60Hz

The measurement shall be executed after warming-up time during 30 minutes in a dark room (Ambient luminance ≤ 10 lux, temperature ≒ 25 ℃

3.2 Composite Video Input

The characteristics of video input composite are shown in Table 3.04

Signal Type	Composite Video
Signal Level	1.0 Vpp
Connector Type	RCA jack
Termination	75Ω

Table 3.04 Video Input Composite

3.3 Separate Video Input (SVHS)

The characteristics of video input separate are shown in Table 3.05

Signal Type	S-Video (Y/C)
Luma Level	1.0 Vpp
Chroma Level	0.286 Vpp(Reference Burst)
Connector Type	4-pin mini-DIN
Termination	75Ω

Table 3.05 Video Input Separate

3.4 Input Formats

The Composite, YC Video input formats are shown in Table 3.06

VIDEO MODES					
Mode Re	solution	Totoal	Normal H-Freq(Khz)	Normal V_Freq(Hz)	Normal Pixel Clock(Mhz)
NTSC Composite/YC	720x480@59.94Hz	858x525	15.734	59.940	13.500
PAL composite/YC	720x580@50Hz	864x625	15.625	50.000	13.500

Table 3.06 Composite, YC Input Formats

3.5 TV Input

3.5.1 NTSC

iAPPLICATION

-Receiving System : (NTSC STANDARD SYSTEM)

- Channel VHF Low BAND : 2(55.25MHz) ~ H(163.25MHz)
  High BAND : I(169.25MHz) ~ W+26(451.25MHz)
  UHF BAND : W+27(457.25MHz) ~ 78(855.25MHz)
- Intermediate Frequeny PIF : (45.75)MHz
  CIF : (44.83)MHz
  SIF : (41.25)MHz
- Input Impedance : UHF/VHF Terminal (75) Y , Unbalanced
- Output Impedance : ViDEO : C.V.B.S
  AUDIO : -
  IF : SECOND IF
- Band Chang – Over System : (PLL Control System)
- Tuning System : (Electronic Tuning System With PLL)

3.5.2 PAL

- APPLICATIONS
  - Receiving System : (PAL B/G+I+D/K + SECAM L/L' STANDARD SYSTEM)
  - Channel VHF Low BAND : E2(48.25MHz) ~ S10(168.25MHz)
    High BAND : E5(175.25MHz) ~ S41(463.25MHz)
    UHF BAND : E21(471.25MHz) ~ E69(855.25MHz)
  - Intermediate Frequency PIF : PAL B/G/I/D/K, SECAM L 38.90MHz
    SECAM L' 33.90MHz
    CIF : PAL B/G/I/D/K, SECAM L 34.47MHz
    SECAM L' 38.15 / 38.3MHz
    SIF : PAL B/G 33.4MHz, PAL I 32.9MHz
    PAL D/K, SECAM L 32.4MHz
    SECAM L' 40.4MHz
  - Input Impedance : UHF/VHF Terminal (75)Y , Unbalanced
  - Band Change – Over System : PLL Control System
  - Tuning System : Electronic Tuning System With PLL
  - Applicable Standard

  Complies with European Regulations on Radiation, Signal handling and Immunity
  CENELEC EN55020, EN55013

3.6 Audio System

This monitor has a audio system including two micro loudspeakers .

Each of two micro loudspeakers has a 2W(Max.) output power .

This system also supports a headphone (earphone) output.

3.6.1 Audio Amplifiers

- 2W+2W Amplifier with DC Volume Control (for two micro loudspeakers)
  R_L=8Ω @THD=10% Vcc=14V (min. 10V, max. 18V)

3.6.2 Speaker

- Micro Loudspeaker Spec.

Normal impedance	8Ω ± 15%	at 1.0V 1.5KHz
Resonance Freq.	550Hz ± 110Hz	at 1.0V
Freq. Range	fo ~ 20KHz	
Power Rating.	Normal 1.0W /Peak 2.0W	

3.6.3 Audio System Specification

- Audio Amplifier Vcc=12V
- Audio Signal Input : < -10.0dB (Vrms=300mV) Max
- Audio Output : 1.0W Max (1ch) @THD=5% (Maximum Input)

3.7 Power Requirements

This display device shall maintain the specified performances in the range described below :

Frequency	50 / 60Hz
Voltage	90 ~ 264Vac RMS
Power On/Off time	> 0.3 sec

The following consumption requirements shall be met ;
Power Consumption : 40W (max absolute value)
Current consumption : < 1.0 Aac RMS

3.8 Power Management

3.8.1 Analog Signal

The monitor requires a signal based on VESA DPMS (Display Power Management Signaling) proposal, and runs in three stages ;

On : Normal Operation
Off : Non Operation

This monitor shall comply with the following specifications.

State	Signals			Power Consumption	Recovery time	LED Description
	H- Sync	V- Sync	Video			
On	Pulses	Pulses	Active	40W	-	Green On
Off	no pulses	no pulses	Blanked	Less than 3.5W	Within 3 sec	Orange On

Table 3.07 - Power Management

3.8.2 Video Signals (S-Video,Composite Video)

There is no definition of power management for Video signals.

3.8.3 TV Signal

There is no definition of power management for TV signals.

3.8.4 Warm - Up Time

The warm - up time shall be 30 minutes minimum. At the end of the warm- up period, no adjustment of service shall be necessary to cause the display to meet the requirements contained herein. After a warm- up time of 30 minutes, the display shall produce a usable image. Repetitive power ON/OFF cycles must be possible with a minimum switch- off time of about 3 sec.

4 USER INTERFACE

4.1 User Controls

This display device shall have following On- Screen Display controls.

A) User Control Panel

- Source
- Volume
- Menu
- Power
- Select
- Down
- Up

B) Control Parameter (PC Mode)

- Brightness
- Contrast
- Color Control
- Miscellaneous
- Audio
- Auto Adjust
- Language
- H-V. Position
- Clock Phase
- Source

C) Control Parameter (S-Video, Video, TV Mode)

- Brightness
- Contrast
- Image Adjust
- Miscellaneous
- Audio
- Language
- (TV)
- Source

4.2 On screen Display Controls

By pressing **Menu** button, OSD menu is activated. The selected item is expressed by a highlight Icon and when ever ▲ button or ▼ button is pressed, a highlight icon is changed from side to side. And by pressing the **select** button, an item is selected and activated. If any button isn't pressed during OSD setting time, the adjusted value is saved and OSD menu is disappeared.

4.2.1 Brightness and contrast

Brightness or Contrast is showed by pressing the **menu** button and selected by pressing the **select** button.

4.2.2 Color Control

The color control(color temperature) selecting by pressing menu button is following modes, mode1, mode2 and user modes. By selecting User mode, a user can control a R- G- B gain.

4.2.3 Miscellaneous

- Recall

  Return to Factory adjustment condition.

  Change four parameters -> Brightness, Contrast**, Color, Audio**

- OSD Timer and OSD Position

  By this menu, a user can control a location of OSD on screen and the display time of OSD menu. OSD Position is showed and selected by pressing the **select** button.

4.2.4 Audio

- Volume : By this menu, a user can control the audio volume.
- Sound off : By this menu, a user can control the audio on/off.
- Treble : By this menu, a user can control the treble gain(¡ 14dB,15step).
- Base : By this menu, a user can control the base gain(¡ 14dB,15step).

4.2.5 AUTO Adjust

If you have done wrong selection at controlling this screen, you can use this menu.

Automatically, if you select this key, this monitor will make a optimum screen.

In order to get the optimized result of this function, display the white background or bright gray level image.

4.2.6 Language

By pressing **LANGUAGE** in main menu, a user can select one of 10 languages, English, Spanish, German, French, Italian, Swedish, Finnish, Danish, Portuguese, Dutch.

To select a language must press **Select** button.

4.2.7 H-V. Position

Horizontal (Vertical) Position is showed by pressing the **menu** button and selected by pressing the **select** button.

To move the screen for the right side or the left side (upward or downward) , ▲ and ▼ button is used.

4.2.8 Clock Phase

1) Phase : This menu adjusts the PLL parameter to synchronize the PLL clock
2) Clock : This menu adjusts the image clock.

4.2.9 Source

This menu used to choose the desired input signal source.

There are four available signal source.

- Analog RGB : 15 pin D-sub, analog signal
- S-Video : MINI DIN, Separate video signal
- Composite : RCA Jack, Composite video signal
- TV : NTSC, PAL

4.3 Video (T V) User Control

4.3.1 Brightness and contrast

Brightness or Contrast is showed by pressing the **menu** button and selected by pressing the **select** button.

4.3.2 Image Adjust

- Saturation : By this menu, a user can control the saturation of the video image.
- Tint : By this menu, a user can control the tint of the video image
- Sharpness : By this menu, a user can control the sharpness of the video image

4.3.3 Miscellangeous

- Recall

  Return to Factory adjustment condition.

  Change four parameters -> Brightness, Contrast, Image, Audio

- OSD Timer and OSD Position

  By this menu, a user can control a location of OSD on screen and the display time of OSD menu. OSD Position is showed and selected by pressing the **select** button.

4.3.4 Audio

- Volume : By this menu, a user can control the audio volume.
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- Base : By this menu, a user can control the base gain(¡ 14dB,15step).

4.3.5 Language

By pressing **LANGUAGE** in main menu, a user can select one of 10 languages, English, Spanish, German, French, Italian, Swedish, Finnish, Danish, Portuguese, Dutch.

To select a language must press **Select** button.

4.3.6 (T V)

- CH Searching : By selecting country on the screen, this program enable to search for the channels automatically.

  If cable(Air/CATV) is disconnected or inappropriate country is selected, it may be operated improperly.

- CH Edit : By this menu, a user can edit the TV channel (add channel / delete channel).
- CH Fine Tune : By this menu, a user can tune the TV channel finely.
- TV Input : By this menu, a user can select the TV channel (Air / Cable).

4.3.7 Source

This menu used to choose the desired input signal source.

There are four available signal source.

- Analog RGB : 15 pin D-sub, analog signal
- S-Video : MINI DIN, Separate video signal
- Composite : RCA Jack, Composite video signal
- TV : NTSC, PAL

4.4 Direct Control (Hot Key)

4.4.1 User Control Panel

- Source - Volume - Menu
- Power
- Select - Down (▼) - Up (▲)

4.4.2 Function of each key

- Source

By this key, a user can change Input source sequentially. (PC->S-VIDEO->VIDEO->TV->PC)

- Volume

By this key, a user can activate Volume control menu.

And press ▲ button or ▼button, a user can control the audio volume.

- Menu

By this key, a user can activate OSD menu.

- Power

By this key, a user can turn on (off) the main Power.

- Select

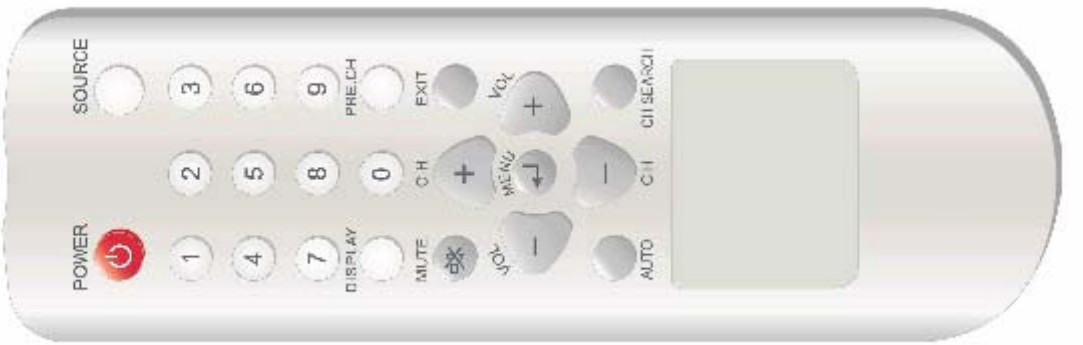
If a user press this key, AUTO Adjust function(4.2.5) executing.(PC Mode only)

- Down / Up

By this key, a user can change TV Channel sequentially.(TV Mode only)

4.5 Remote Controller

4.5.1 Figure of Remote Controller



4.5.2 Function of each key

- POWER

By this key, a user can turn on (off) the main Power.

- INPUT SOURCE

By this key, a user can change Input source sequentially. (PC->S-VIDEO->VIDEO->TV->PC)

- Numeric

By this key, a user can select Channel directly.(TV Mode only)

- DISPLAY

By this key, a user can know about current state.(PC, S-VIDEO, VIDEO, TV – CH)

- PRE.CH

By this key, a user can move previous Channel.(TV Mode only)

- MUTE

By this key, a user can control the audio on/off. (4.2.4 & 4.3.4)

- EXIT

By this key, a user can exit all kinds of OSD menu.

- MENU

By this key, a user can activate OSD menu.

When OSD menu is activated, this key operate like **select** button.

- CH (+ / -)

By this key, a user can change TV Channel sequentially.(TV Mode only)

When OSD menu is activated, this key move selected item up or down.

- VOL (+ / -)

By this key, a user can control the audio volume.(4.2.4 & 4.3.4)

When OSD menu is activated, this key act like ▲ button or ▼ button.

- AUTO

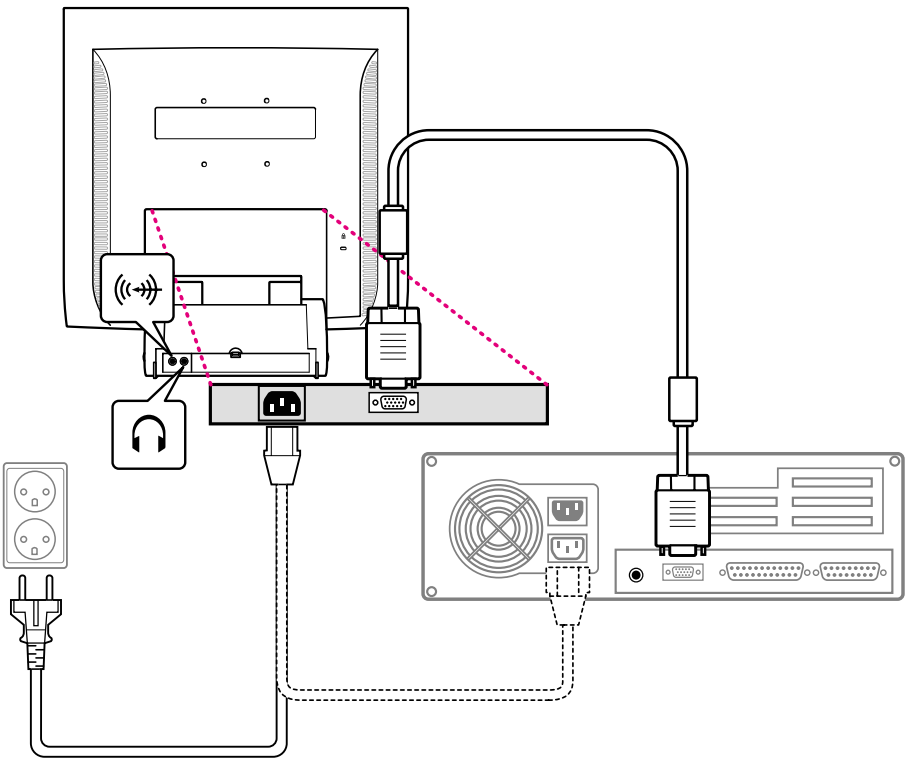
If a user press this key, AUTO Adjust function(4.2.5) executing.(PC Mode only)

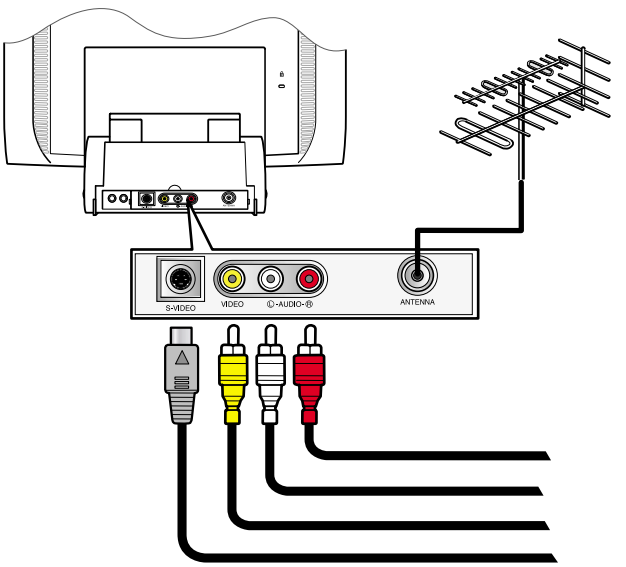
- CH SEARCH

If a user press this key, CH Searching function(4.3.6) executing.(TV Mode only)

Connecting with External Equipment

Cautions
Be sure to turn off the power of your computer before connecting the monitor.





On Screen Controls & LED Indicator

The menu for screen setting adjustment is located in the OSD and can be viewed in one of five languages OSD feature andmain funcrions are as follows:

OSD Adjustments

he OSD adjustments available to you are listed below.

BrigHtness

Adjust the brightness of the screen.

Contrast

Adjust the contrast of the screen.

Color control

Color temperature affects the tint of the image. With lower color temperatures the image turns reddish and with higher temperatures bluish.

There are three color settings available: Mode 1(a cool white), Mode 2(a warm white) or USER. With the USER setting you can set individual values for red, green and blue.

MISCELLANEOUS

Recall

Recall the saved color data.

OSD TIMER

You can set the displayed time of OSD Menu window on the screen by using this adjustment.

OSD Position

Adjust the OSD menu's horizontal or vertical position on the screen.

AUDIO

VOLUME

Adjust the audio volume level.

SOUND OFF

This menu is used to choose audio on or off.

TREBLE

Emphasize high frequency audio.

BASE

Emphasize low frequency audio.

AUTO ADJUST

You can adjust the shape of screen automatically at the full screen pattern.

Language

You can select the language in which adjustment menus are displayed. The following languages are available : English, French, German, Italian, Spanish, Swedish, Finnish, Danish, Portuguese and Dutch.

H/V. POSITION

H POSITION

Adjusts the horizontal position of the entire screen image.

V POSITION

Adjusts the vertical position of the entire screen image.

CLOCK PHASE

PHASE

Adjust the noise of the screen image.

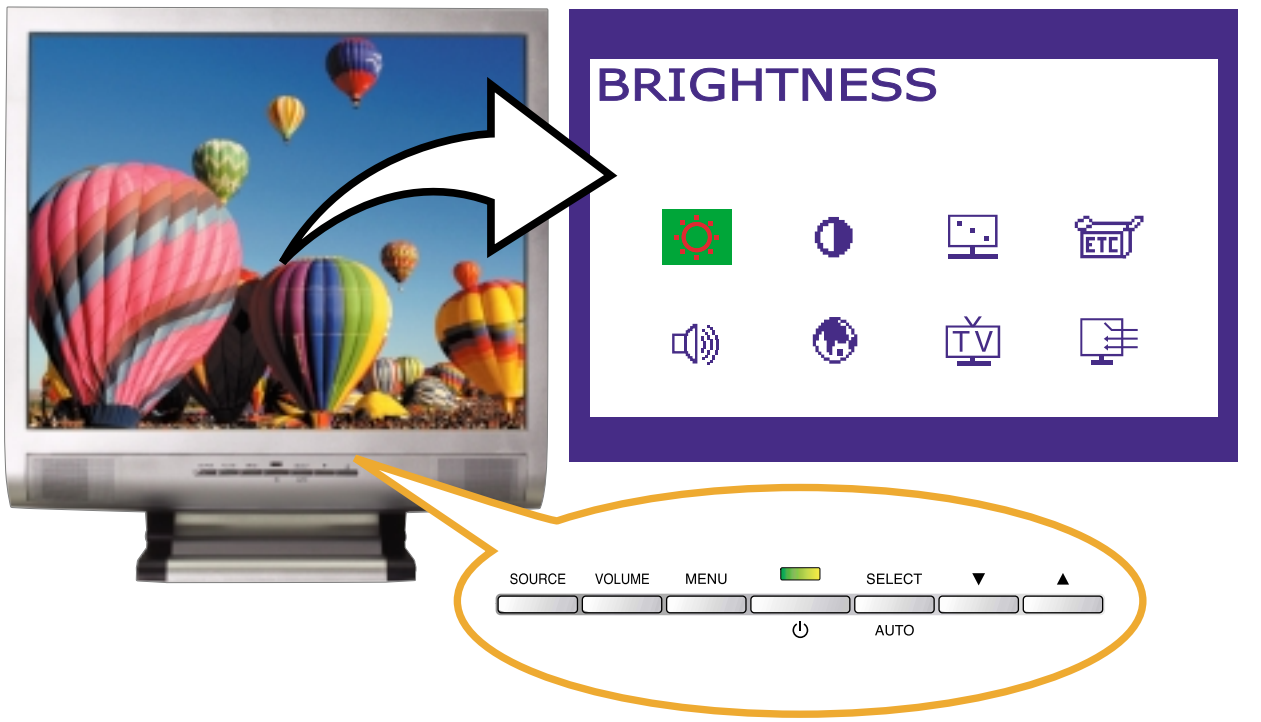
CLOCK

Adjust the horizontal size of the entire screen image.

SOURCE

No function. (Only supportable by the optional appliance.)

TV **Direct access buttons(Option)**



SOURCE	**Use this button to change a video source** **Video sources are changed in the following order :** **PC Æ S-Video Æ VIDEO Æ TV**
VOLUME	**Use the button to select the volume adjustment.** **Adjust with Up or Down button.**
MENU	**Opens the OSD and selects the highlighted function.**
SELECT	**Select function on the OSD.**
▼ ▲	**Moves the selector right or left on the OSD.** **Increases or decreases the values of the selected function.** **Increases or decreases the channel number.**

OSD Adjustments

The OSD adjustments available to you are listed below.

Brightness
Adjust the brightness of the screen.

Contrast
Adjust the contrast of the screen.

Image Adjust

Saturation
Adjust the saturation of the video image.

Tint
Adjust the Tint of the video image.

Sharpness
Adjust the sharpness and softness of the video image.

Miscellaneous

Recall
Recall the saved color data.

OSD Timer
You can set the displayed time of OSD Menu window on the screen by using this adjustment.

OSD Position
Adjust the OSD menu's horizontal or vertical position on the screen.

Audio

Volume
Adjust the audio volume level.

Sound off
This menu is used the choose audio on or off.

Treble
Emphasize high frequency audio.

Base
Emphasize low frequency audio.

Language
You can select the language in which adjustment menus are displayed. The following languages are available : English, French, German, Italian, Spanish, Swedish, Finnish, Danish, Portuguese and Dutch.

Source
This menu is used to choose the desired input signal source.
There are four signal sources available :

- Analog RGB : 15 pin D-sub, Analog signal
- S-video : MINI DIN, Separate video signal
- Composite Video : RCA Jack, Composite video signal
- TV : Antenna or CATV signal

TV
Ch Searching
By selecting country on the screen, this program enabls to seach for the channels automatically.

If cable(Air/CATV) is disconnected or inappropriate country is selected, It may be operated improperly.

Ch Edit
To add a newly found channel or remove an existing channel.

Ch Fine Tune
To make the video image as clear as posible.

TV Input
Select a channel system : Air or Cable.

Getting Fine Picture

Step 1. At first Display, a full screen, such as, Window's background or "H" character should be achieved by using Editor (ex: Notepad. exe)

Step 2. Adjust the screen to the center of the Display(LCD), by using the top and bottom display controls. (i.e.Using V-Position Adjust menu)

Step 3. Adjust the screen to the center of the Display(LCD), by using the right and left display controls. (i.e.Using Clock and H-Position adjust menu)

Step 4. Adjust the Clock-phase until the "H" Character displays clear.

Step 5. Using the Contrast. Brightness, and Color Control menu, set the color to your preference.

Step 6. When you finish the adjustment, you can save your settings by pressing on the menu until the OSD screen has disappeared.

Factory Setting & EEPROM Initialization Method

Factory Setting Method

- Connect the signal cable and power cable to the LCD monitor.
- Press Power switch with pressed MENU key.(Menu key + Power key).
- Then, a User can change the factory setting value in OSD menu.
- Save changed value and Turn off the power s/w.
- Turn on the power, adjust the screen.

Specification

LCD	19"viewable, Diagonal, A-Si TFT
Pixel pitch	0.294 x 0.294mm
Brightness	250cd/m²
Response Time	25msec
Display area	376.32 x 301.056 mm
Number of color	16,7 milion colors
Input signals	R.G.B Analog, 15 pin D-sub
Frequency rate	Horizontal : 31.0 to 80.0KHz, Vertical : 56 to 75Hz
Maximum bandwidth	135 MHz
Maximum resolution	1280 x 1024@75Hz
Recommanded resolution	1280 x 1024@60Hz
Input voltage	100-240 VAC, 1.0A
Power consumption	40W
Power management	VESA DPMS
Plug & Play	VESA DDC 1/2B
OSD menu	BRIGHTNESS, CONTRAST, COLOR CONTROL, MISCELLANEOUS, AUDIO, AUTO ADJUST, LANGUAGE, H/V. POSITION, CLOCK-PHASE, SOURCE
Built in Speaker	2ch x 2watts
VESA FPMPMI	75 x 75 mm screw mounting
Ergonomics, Safety and EMC	TCO, FCC Class B, CE, cULus, TÜV-GS, SEMKO
Operating Temperature	5 ~ 35°C
Weight	6.2Kg unpacked, 8.2Kg packed
Dimensions (W X H X D mm)	420 X 441 X 185 mm

- *Specification is subject to change without notice for performance improvement.*

Critical Parts Specification

AT24C164

Features

- **Low Voltage and Standard Voltage Operation**
  - **5.0 (V_{CC} = 4.5V to 5.5V)**
  - **2.7 (V_{CC} = 2.7V to 5.5V)**
  - **2.5 (V_{CC} = 2.5V to 5.5V)**
  - **1.8 (V_{CC} = 1.8V to 5.5V)**
- **Internally Organized 2048 x 8 (16K)**
- **2-Wire Serial Interface**
- **Schmitt Trigger, Filtered Inputs for Noise Suppression**
- **Bidirectional Data Transfer Protocol**
- **100 kHz (1.8V, 2.5V, 2.7V) and 400 kHz (5V) Compatibility**
- **Write Protect Pin for Hardware Data Protection**
- **Cascadable Feature Allows for Extended Densities**
- **16-Byte Page Write Mode**
- **Partial Page Writes Are Allowed**
- **Self-Timed Write Cycle (10 ms max)**
- **High Reliability**
  - **Endurance: 1 Million Write Cycles**
  - **Data Retention: 100 Years**
  - **ESD Protection: >3,000V**
- **Automotive Grade and Extended Temperature Devices Available**
- **8-Pin JEDEC SOIC and 8-Pin PDIP Packages**

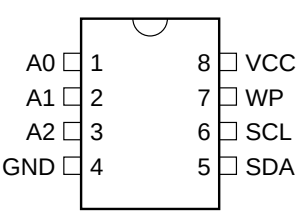
Description

The AT24C164 provides 16,384 bits of serial electrically erasable and programmable read only memory (EEPROM) organized as 2048 words of 8 bits each. The deviceís cascadable feature allows up to eight devices to share a common 2-wire bus. The device is optimized for use in many industrial and commercial applications where low power and low voltage operation are essential. The AT24C164 is available in space saving 8-pin PDIP and 8-pin SOIC packages and is accessed via a 2-wire serial interface. In addition, this device is available in 5.0V (4.5V to 5.5V), 2.7V (2.7V to 5.5V), 2.5V (2.5V to 5.5V) and 1.8V (1.8V to 5.5V) versions.

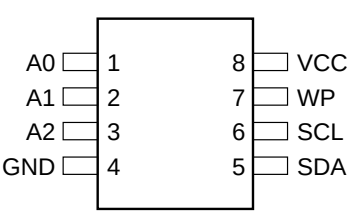
Pin Configurations

Pin Name	Function
A0 - A2	Address Inputs
SDA	Serial Data
SCL	Serial Clock Input
WP	Write Protect

8-Pin PDIP



8-Pin SOIC

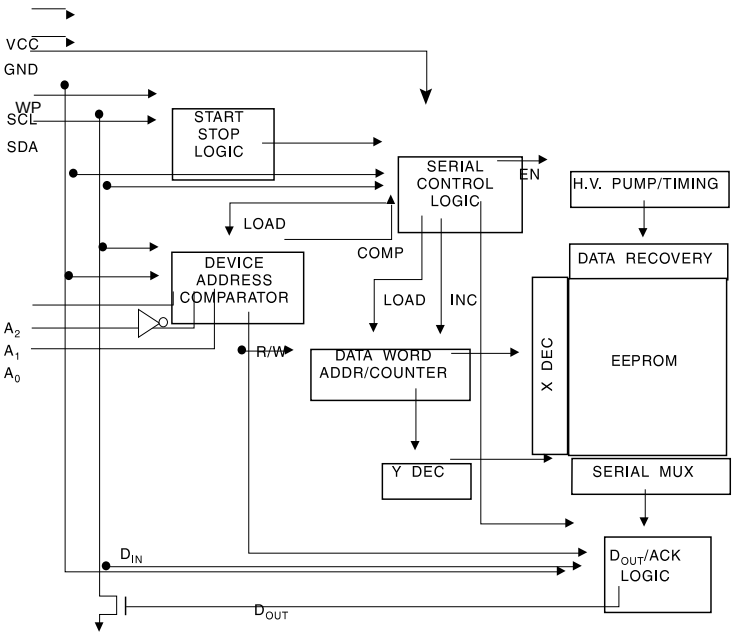


Absolute Maximum Ratings*

Operating Temperature	-55°C to +125°C
Storage Temperature	-65°C to +150°C
Voltage on Any Pin with Respect to Ground	-1.0V to +7.0V
Maximum Operating Voltage	6.25V
DC Output Current	5.0 mA

*NOTICE: Stresses beyond those listed under ìAbsolute Maximum Ratingsî may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Block Diagram



Pin Description

SERIAL CLOCK (SCL): The SCL input is used to positive edge clock data into each EEPROM device and negative edge clock data out of each device.

SERIAL DATA (SDA): The SDA pin is bidirectional for serial data transfer. This pin is open-drain driven and may be wire-ORed with any number of other open-drain or open collector devices.

DEVICE SELECT (A2, A1, A0): The A2, A1 and A0 pins are device address inputs that may be hardwired or actively driven to V_{DD} or V_{SS}. These inputs allow the selection for one of eight possible devices sharing a common bus. The AT24C164 can be made compatible with the AT24C16 by tying A2, A1 and A0 to V_{SS}. Device addressing is discussed in detail in the device addressing section.

WRITE PROTECT (WP): The write protect input, when tied low to GND, allows normal write operations.

Memory Organization

The AT24C164 is internally organized with 256 pages of 8 bytes each. Random word addressing requires an 11 bit data word address.

RC1117

1A Adjustable/Fixed Low Dropout Linear Regulator

Features

- Low dropout voltage
- Load regulation: 0.05% typical
- Trimmed current limit
- On-chip thermal limiting
- Standard SOT-223 and TO-263 packages
- Three-terminal adjustable or fixed 2.5V, 2.85V, 3.3V, 5V

Applications

- Active SCSI terminators
- High efficiency linear regulators
- Post regulators for switching supplies
- Battery chargers
- 5V to 3.3V linear regulators
- Motherboard clock supplies

Description

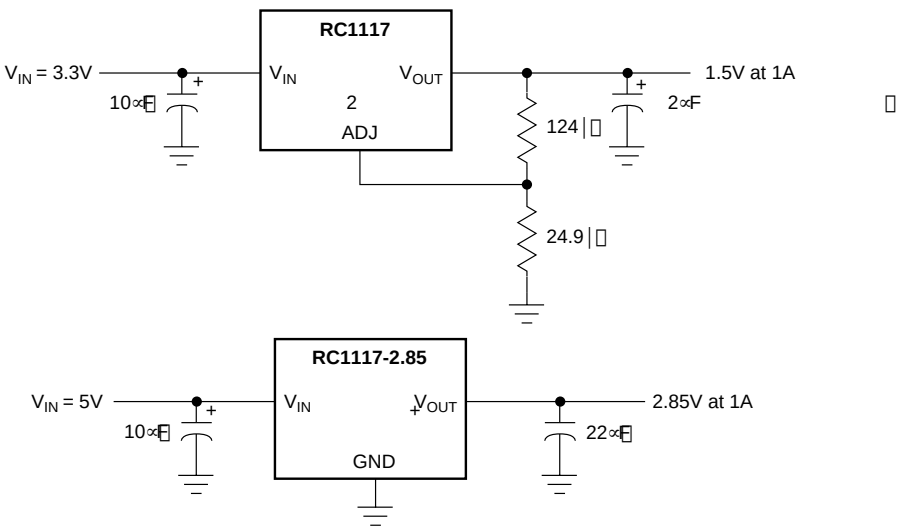
The RC1117 and RC1117-2.5, -2.85, -3.3 and -5 are low dropout three-terminal regulators with 1A output current capability. These devices have been optimized for low voltage where transient response and minimum input voltage are critical. The 2.85V version is designed specifically to be used in Active Terminators for SCSI bus.

Current limit is trimmed to ensure specified output current and controlled short-circuit current. On-chip thermal limiting provides protection against any combination of overload and ambient temperatures that would create excessive junction temperatures.

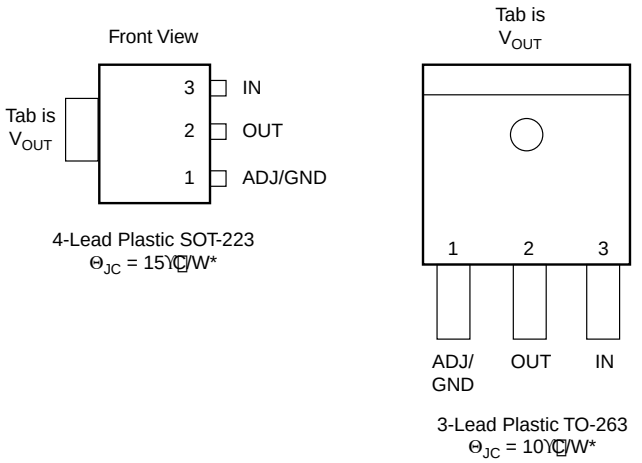
Unlike PNP type regulators where up to 10% of the output current is wasted as quiescent current, the quiescent current of the RC1117 flows into the load, increasing efficiency.

The RC1117 series regulators are available in the industry-standard SOT-223 and TO-263 power packages.

Typical Applications



Pin Assignments



*With package soldered to 0.5 square inch copper area over backside ground plane or internal power plane., Θ_{JA} can vary from 30°C/W to more than 50°C/W. Other mounting techniques may provide better thermal resistance than 30°C/W.

Absolute Maximum Ratings

Parameter	Min.	Max.	Unit
V_{IN}		7.5	V
Operating Junction Temperature Range	0	125	°C
Storage Temperature Range	-65	150	°C
Lead Temperature (Soldering, 10 sec.)		300	°C

Electrical Characteristics

Operating Conditions: $V_{IN} \leq 7V$, $T_J = 25°C$ unless otherwise specified.

The • denotes specifications which apply over the specified operating temperature range.

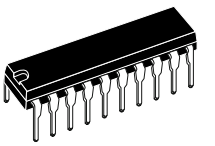
Parameter	Conditions		Min.	Typ.	Max.	Units
Reference Voltage[3]	1.5V ≤ (V_{IN} - V_{OUT}) ≤ 5.75V, 10mA ≤ I_{OUT} ≤ 1A	•	1.225 (-2%)	1.250	1.275 (+2%)	V
Output Voltage	10mA ≤ I_{OUT} ≤ 1A					
	RC1117-2.5, 4V ≤ V_{IN} ≤ 7V	•	2.450	2.5	2.550	V
	RC1117-2.85, 4.35V ≤ V_{IN} ≤ 7V	•	2.793	2.85	2.907	V
	RC1117-3.3, 4.8V ≤ V_{IN} ≤ 7V	•	3.234	3.3	3.366	V
	RC1117-5, 6.5V ≤ V_{IN} ≤ 7V	•	4.900	5.0	5.100	V
Line Regulation[1,2]	(V_{OUT} + 1.5V) ≤ V_{IN} ≤ 7V, I_{OUT} = 10mA	•		0.005	0.2	%
Load Regulation[1,2]	(V_{IN} – V_{OUT}) = 2V, 10mA ≤ I_{OUT} ≤ 1A	•		0.05	0.5	%
Dropout Voltage	ΔV_{REF} = 1%, I_{OUT} = 1A	•		1.100	1.200	V
Current Limit	(V_{IN} – V_{OUT}) = 2V	•	1.1	1.5		A
Adjust Pin Current[3]		•		35	120	μA
Adjust Pin Current Change[3]	1.5V ≤ (V_{IN} – V_{OUT}) ≤ 5.75, 10mA ≤ I_{OUT} ≤ 1A	•		0.2	5	μA
Minimum Load Current	1.5V ≤ (V_{IN} – V_{OUT}) ≤ 5.75	•	10			mA
Quiescent Current	V_{IN} = V_{OUT} + 1.25V	•		4	13	mA
Ripple Rejection	f = 120Hz, C_{OUT} = 22μF Tantalum, (V_{IN} – V_{OUT}) = 3V, I_{OUT} = 1A		60	72		dB
Thermal Regulation	T_A = 25°C, 30ms pulse			0.004	0.02	%/W
Temperature Stability		•		0.5		%
Long-Term Stability	T_A = 125°C, 1000hrs.			0.03	1.0	%
RMS Output Noise (% of V_{OUT})	T_A = 25°C, 10Hz ≤ f ≤ 10kHz			0.003		%
Thermal Resistance, Juncation to Case	SOT-223			15		°C/W
	TO-263			10		°C/W
Thermal Shutdown				150		°C

Notes:

1. See thermal regulation specifications for changes in output voltage due to heating effects. Load and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.
2. Line and load regulation are guaranteed up to the maximum power dissipation (18W). Power dissipation is determined by input/output differential and the output current. Guaranteed maximum output power will not be available over the full input/output voltage range.
3. RC1117 only.

TDA7496L

- 2W+2W OUTPUT POWER
  R_L = 8Ω @THD = 10% V_{CC} = 14V
- ST-BY AND MUTE FUNCTIONS
- LOW TURN-ON TURN-OFF POP NOISE
- LINEAR VOLUME CONTROL DC COUPLED WITH POWER OP. AMP.
- NO BOUCHEROT CELL
- NO ST-BY RC INPUT NETWORK
- SINGLE SUPPLY RANGING UP TO 15V
- SHORT CIRCUIT PROTECTION
- THERMAL OVERLOAD PROTECTION
- INTERNALLY FIXED GAIN
- SOFT CLIPPING
- VARIABLE OUTPUT AFTER VOLUME CONTROL CIRCUIT
- POWERDIP (14+3+3) PACKAGE



Powerdip (14+3+3)

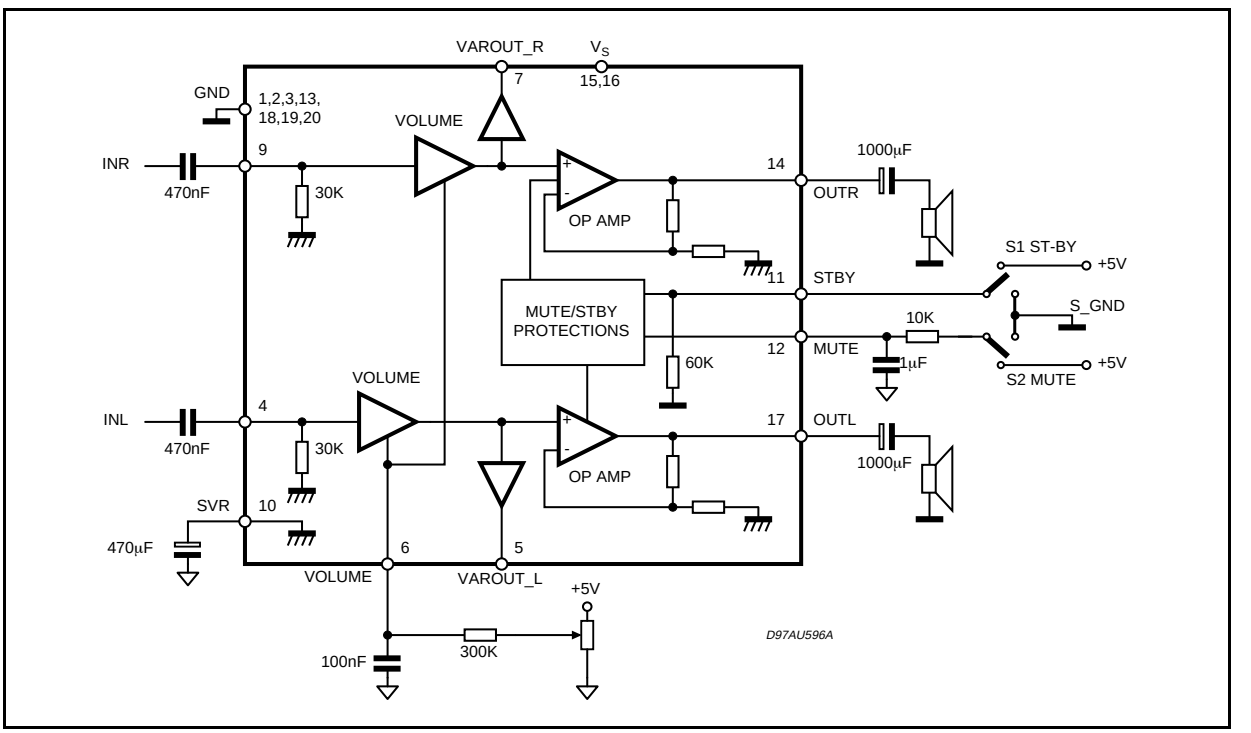
ORDERING NUMBER: TDA7496L

DESCRIPTION

The TDA7496L is a stereo 2W+2W class AB power amplifier assembled in the @ Powerdip 14+3+3 package, specially designed for high quality sound, TV and Monitor applications.

Features of the TDA7496L include linear volume control, Stand-by and mute functions.

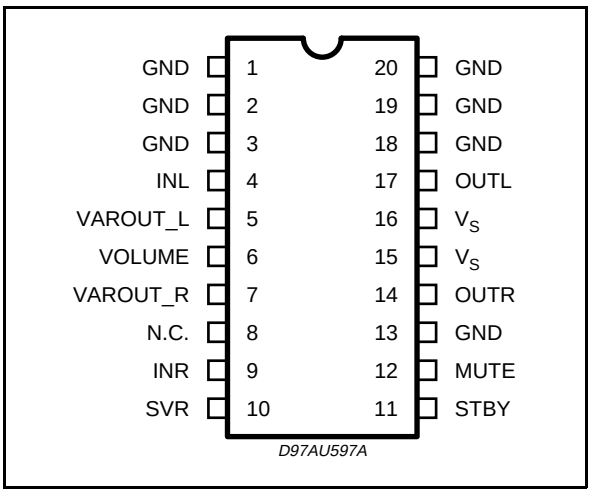
BLOCK DIAGRAM



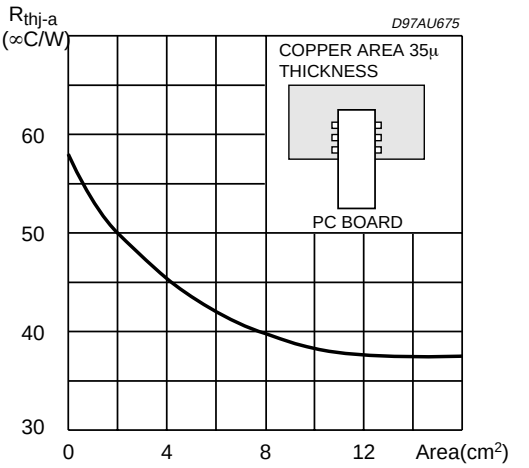
ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	DC Supply Voltage	26	V
V_{IN}	Maximum Input Voltage	8	Vpp
P_{tot}	Total Power Dissipation (T_{case} = 60°C)	6	W
T_{amb}	Ambient Operating Temperature	0 to 70	°C
T_{stg}, T_j	Storage and Junction Temperature	-40 to 150	°C
V_6	Volume CTRL DC voltage	7	V

PIN CONNECTION



Rth with "on board" Square Heatsink vs. copper area.



THERMAL DATA

Symbol	Parameter		Value	Unit
$R_{th\ j\text{-}pins}$	Thermal Resistance Junction-pins	max.	15	°C/W
$R_{th\ j\text{-}amb}$ (*)	Thermal Resistance Junction-ambient	max.	50	°C/W

(*) Mounted on PCB with no heatsink

ELECTRICAL CHARACTERISTICS (Refer to the test circuit V_S = 14V; R_L = 8Ω, R_g = 50Ω, T_{amb} = 25°C).

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_S	Supply Voltage Range		10		18	V
I_q	Total Quiescent Current			25	50	mA
DCV_{OS}	Output DC Offset Referred to SVR Potenial	No Input Signal		200		mV
V_O	Quiescent Output Voltage			7		V
P_O	Output Power	THD = 10%; R_L = 8Ω; 1	.6	2		W
		THD = 1%; R_L = 8Ω; 1		.3		W
THD	Total Harmonic Distortion	G_V = 30dB; P_O = 1W; f = 1KHz;			0.4	%
I_{peak}	Output Peak Current	(internally limited)	0.7	0.9		A
V_{in}	Input Signal				2.8	Vrms
G_V	Closed Loop Gain	Vol Ctrl > 4.5V	28.5	30	31.5	dB
G_{vLine}	Monitor Out Gain	Vol Ctrl > 4.5V; Zload > 30KΩ	-1.5	0	1.5	dB
$A_{Min\ VOL}$	Attenuation at Minimum Volume	Vol Ctrl < 0.5V	80			dB
BW				0.6		MHz

ELECTRICAL CHARACTERISTICS (continued)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
e_N	Total Output Noise	f = 20Hz to 22KHz Play, max volume		500	800	μV
		f = 20Hz to 22KHz Play, max attenuation		100	250	μV
		f = 20Hz to 22KHz Mute		60	150	μV
SR	Slew Rate		5	8		V/μs
R_i	Input Resistance		22.5	30		KΩ
$R_{Var\ Out}$	Variable Output Resistance			30	100	Ω
$R_{load\ Var\ Out}$	Variable Output Load		2			KΩ
SVR	Supply Voltage Rejection	f = 1kHz; max volume C_{SVR} = 470μF; V_{RIP} = 1V_{rms}	35	39		dB
		f = 1kHz; max attenuation C_{SVR} = 470μF; V_{RIP} =1V_{rms}	55	65		dB
T_M	Thermal Muting			150		∝C
T_S	Thermal Shut-down			160		∝C
MUTE STAND-BY & INPUT SELECTION FUNCTIONS						
$V_{ST\ ON}$	Stand-by ON Threshold		3.5			V
$V_{ST\ OFF}$	Stand-by OFF Threshold				1.5	V
$V_{M\ ON}$	Mute ON Threshold		3.5			V
$V_{M\ OFF}$	Mute OFF Threshold				1.5	V
$I_{qST\text{-}BY}$	Quiescent Current @ Stand-by			0.6	1	mA
A_{MUTE}	Mute Attenuation		50	65		dB
$I_{stbyBIAS}$	Stand-by bias current	Stand by on $V_{ST\text{-}BY}$ = 5V V_{MUTE} = 5V		80		μA μA
		Play or Mute	-20	-5		μA
$I_{muteBIAS}$	Mute bias current	Mute		1	5	μA
		Play		0.2	2	μA

APPLICATION SUGGESTIONS

The recommended values of the external components are those shown on the application circuit of figure 1A. Different values can be used, the following table can help the designer.

COMPONENT	SUGGESTION VALUE	PURPOSE	LARGER THAN SUGGESTION	SMALLER THAN SUGGESTION
R1	300K	Volume control circuit	Larger volume regulation time	Smaller volume regulation time
R2	10K	Mute time constant	Larger mute on/off time	Smaller mute on/off time
P1	50K	Volume control circuit		
C1	1000μF	Supply voltage bypass		Danger of oscillation
C2	470nF	Input DC decoupling	Lower low frequency cutoff	Higher low frequency cutoff
C3	470nF	Input DC decoupling	Lower low frequency cutoff	Higher low frequency cutoff
C4	470μF	Ripple rejection	Better SVR	Worse SVR
C5	100nF	Volume control time costant	Larger volume regulation time	Smaller volume regulation time
C6	1000μF	Output DC decoupling	Lower low frequency cutoff	Higher low frequency cutoff
C7	1μF	Mute time costant	Larger mute on/off time	Smaller mute on/off time
C8	1000μF	Output DC decoupling	Lower low frequency cutoff	Higher low frequency cutoff
C9	100nF	Supply voltage bypass		Danger of oscillation

NT68F632V2

Section-1 General Description

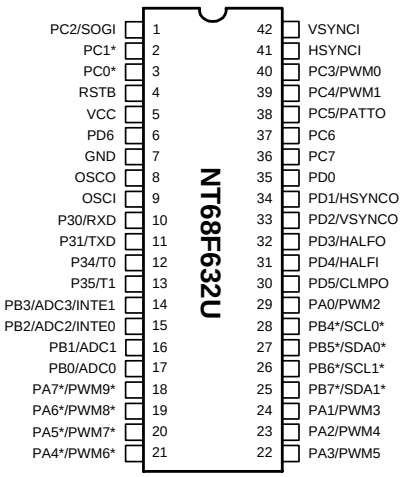
1 Features

- CMOS technology for low power consumption
- Operating voltage Vcc ranges from 3.0V to 3.6V
- 8031 8-bit CMOS Micro-Processor (uP) core
  - Intel compatible 8031 architecture
  - **256-byte** Internal DATA Memory
  - Two 16-Bit Timer/Counter
  - Fully duplex UART
  - 5-vector interrupt structure with two programmable priority levels
  - High level C-language for the F/W development
- On-Chip Oscillator 12MHz operating frequency
- 24MHz clock for CPU operating
- Reset
  - External Reset Pin
  - Lo w-Voltage Reset
  - Watch-Dog Timer Reset
  - IS P Reset
- Program memory
  - 128K bytes of on-chip flash memory for program memory
  - 2K bytes of Mask ROM for ISP control function
- 1,536 Bytes On-Chip RAM
  - Extended 256 Bytes Internal DATA Memory of uP 8031
  - External Data Memory
    - 768 Bytes General Purpose RAM Buffer! $F400 ~ $F6FF"
    - 512 Bytes RAM Buffer for hardware DDC Port ! $F800 ~ $F9FF"
- A/D Converter
  - 7- Bit resolution
  - 4 selectable Input channels
  - Conversion Range Absolutely Monotonic linear from GND to VCC
  - Conversion time 12us
- PWM D/A Converter
  - 8- Bit resolution
  - 10 selectable output channels
    - 6 channels with 3.3V Push-Pull Structure
    - 4 channels with 5V Open-Drain Structure
- 35! 37 for PLCC Package" Selectable General Purpose I/O Pins
- Interrupts 5-vector interrupt structure with two programmable priority levels for uP F8031
  - TF0: Timer/Counter 0 Overflow Interrupt
  - TF1: Timer/Counter 1 Overflow Interrupt
  - RI+TI: UART Interrupts
  - I NT0:
    - Sync Processor Interrupts
    - I^2C Bus Port-0 (PB4, PB5) Interrupt
  - NT1
    - External Interrupts: INTE0 & INTE1
    - I^2C-Bus Port-1 (PB6, PB7) Interrupts
- Sync Processor Unit
  - S ignal Type Separate Sync, Composite Sync & Digital-Level Sync-On-Green! SOG"
  - Powerful Polarity detection for HSYNCI and VSYNCI
  - H SYNCO/VSYNCO polarity-controlled outputs
  - F ast Auto-Mute function
  - Half frequency I/O function
  - Timer/Counters with 2-lay content latches for counting sync period/frequency stable results can be read
  - Clamp pulse output
    - Clamp pulse output at either the leading edge or trailing edge of HSYNC
    - Selectable Clamp pulse width
    - Selectable pulse output polarity
  - Flexible free-run H/V sync output generator
  - Flexible test pattern generator
- DDC Port
  - Dual indepentent input DDC channels
  - Pure hardware solution for VESA DDC1/2B
  - Selectable 128/256 Bytes EDID-Buffer for hardware DDC port
- I^2C-bus
  - Two built-in master/slave I^2C bus interfaces support VESA 2Bi/2B+
  - SCL clock speed supports up to 400Kbps
- Package
  - 42 -Pin S-DIP
  - 44 -Pin PLCC

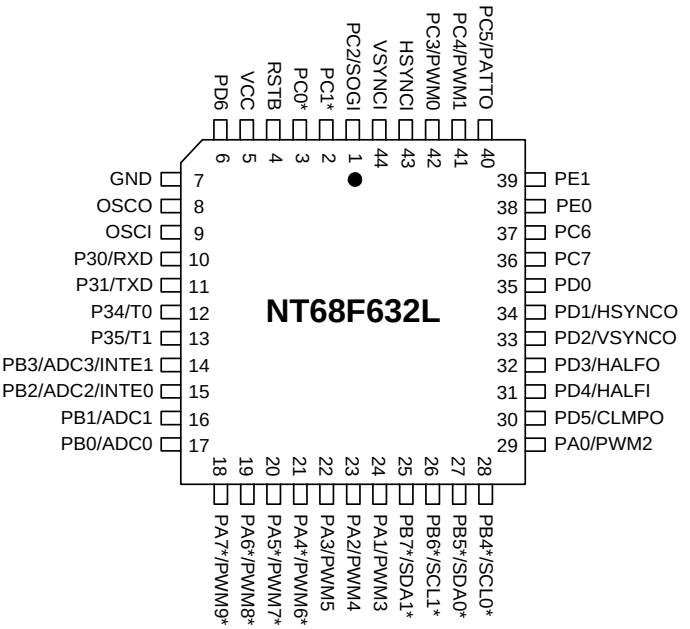
1-2 General Description

This is an 8031 CPU core embedded micro-controller, which is designed for the high-performance low-cost LCD monitor control application. It contains an 8-bit 8031 micro-controller, on-chip 128K bytes flash-type program ROM, 1,536-bytes internal data memory, four 7-bit resolution A/D Converter, 10-channel 8-bit resolution PWM DAC, two16-bit timer/counters, and an UART. Besides those, it has an internal SYNC processor, two-channel hardware DDC solution, and VESA 2Bi/2B+ master/slave I^2C bus interface. Those functions can help the user to develop a LCD monitor application as soon as possible.

1-3 Pin Configurations

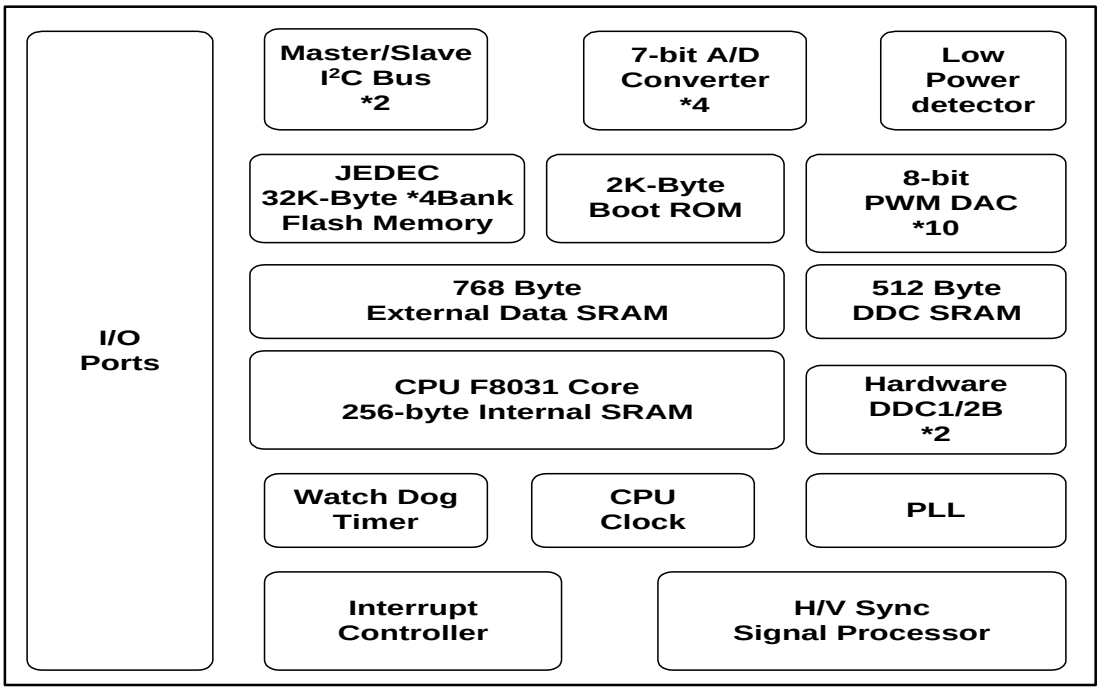


42-Pin S-DIP



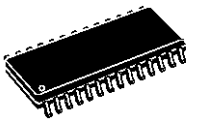
44-Pin PLCC

1-4 Block Diagram



TDA7440D

- INPUT MULTIPLEXER
  - 4 STEREO INPUTS
  - SELECTABLE INPUT GAIN FOR OPTIMAL ADAPTATION TO DIFFERENT SOURCES
- ONE STEREO OUTPUT
- TREBLE AND BASS CONTROL IN 2.0dB STEPS
- VOLUME CONTROL IN 1.0dB STEPS
- TWO SPEAKER ATTENUATORS:
  - TWO INDEPENDENT SPEAKER CONTROL IN 1.0dB STEPS FOR BALANCE FACILITY
  - INDEPENDENT MUTE FUNCTION
- ALL FUNCTION ARE PROGRAMMABLE VIA SERIAL BUS



SO28

ORDERING NUMBER: TDA7440D

DESCRIPTION

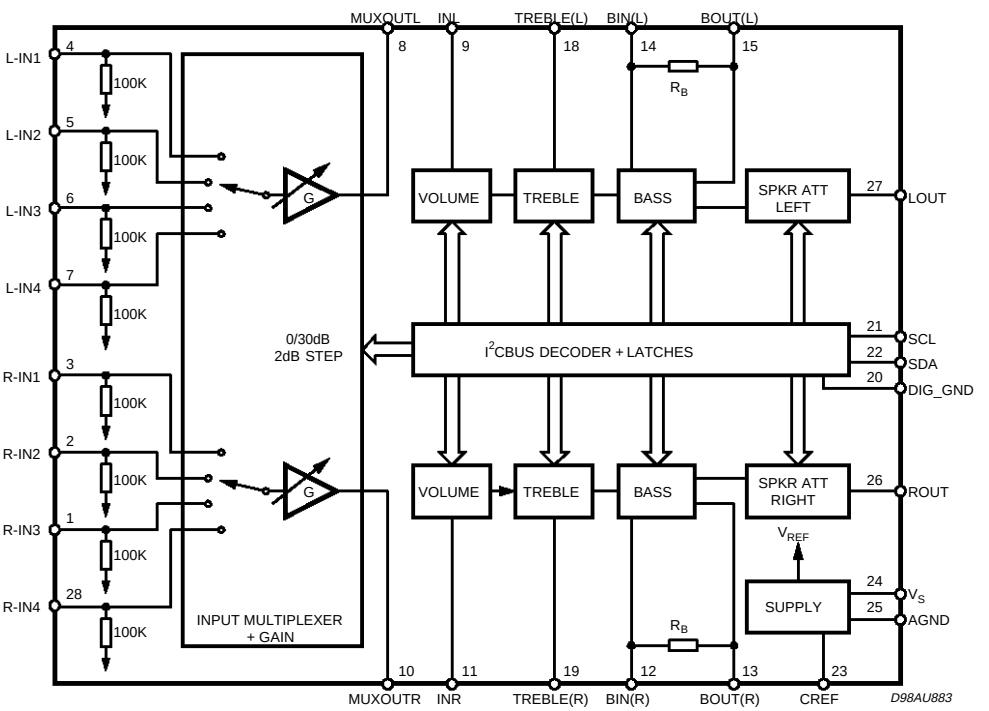
The TDA7440D is a volume tone (bass and treble) balance (Left/Right) processor for quality audio applications in Hi-Fi systems.

Selectable input gain is provided. Control of all the functions is accomplished by serial bus.

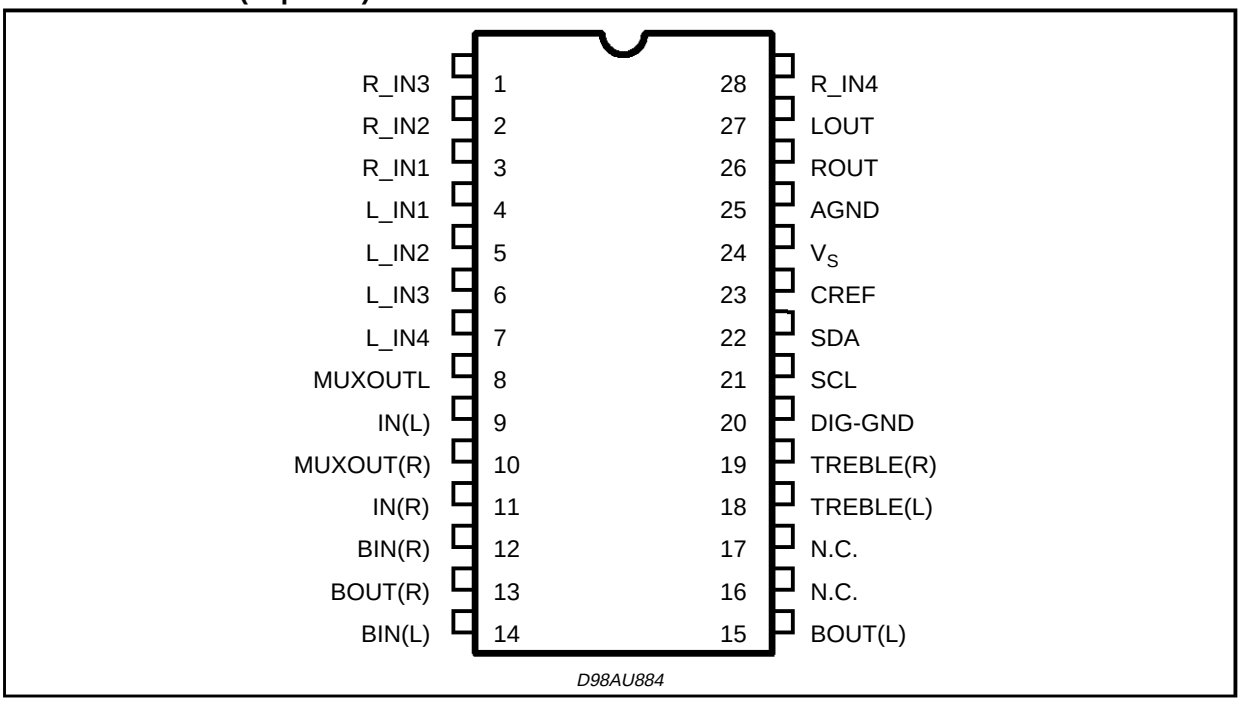
The AC signal setting is obtained by resistor networks and switches combined with operational amplifiers.

Thanks to the used BIPOLAR/CMOS Technology, Low Distortion, Low Noise and DC stepping are obtained

BLOCK DIAGRAM



PIN CONNECTION (Top view)



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_S	Operating Supply Voltage	10.5	V
T_{amb}	Operating Ambient Temperature	-10 to 85	5C
T_{stg}	Storage Temperature Range	-55 to 150	5C

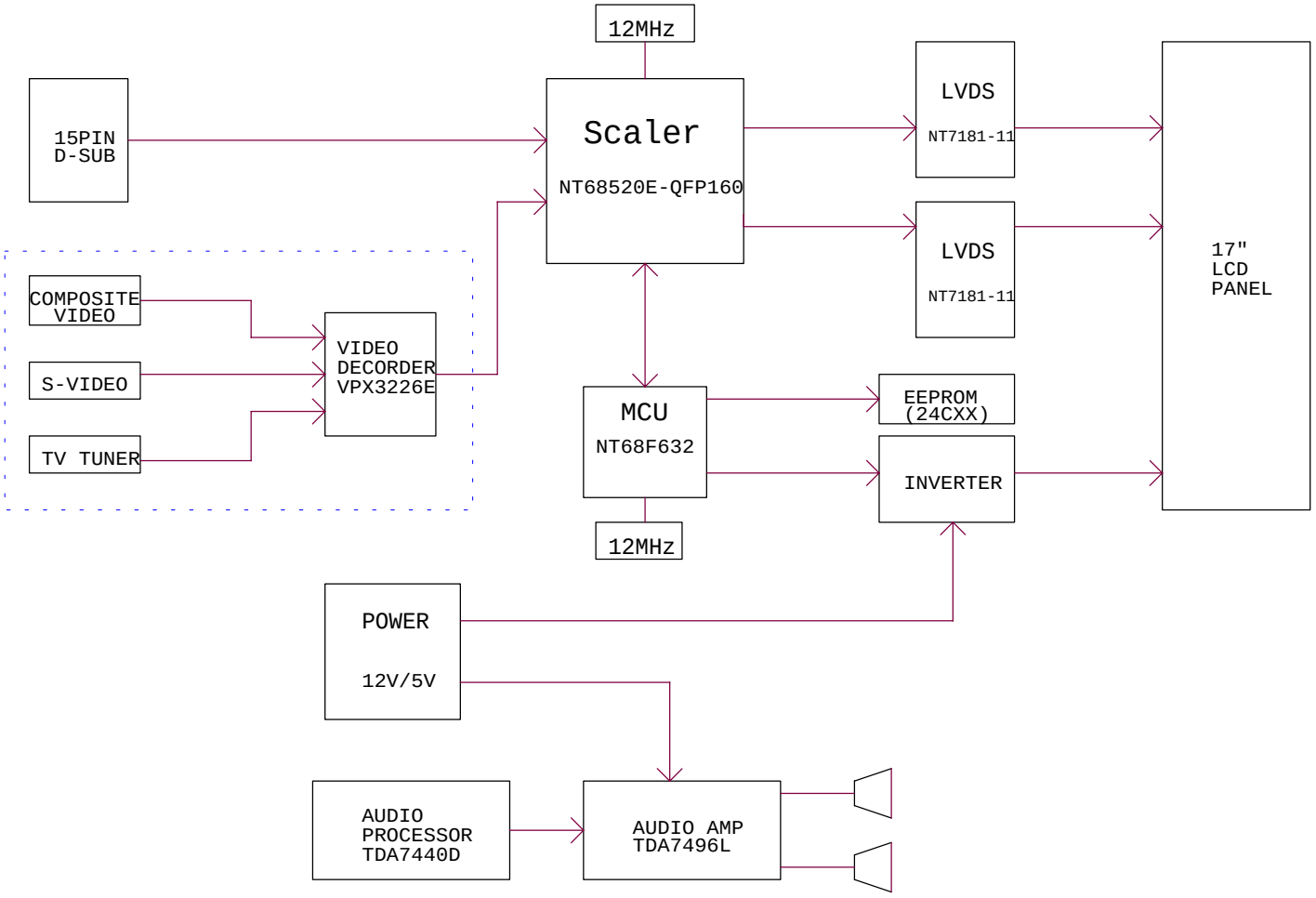
THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{th\ j\text{-}pin}$	Thermal Resistance Junction-pins	85	5C/W

QUICK REFERENCE DATA

Symbol	Parameter	Min.	Typ.	Max.	Unit
V_S	Supply Voltage	6	9	10.2	V
V_{CL}	Max. input signal handling	2			Vrms
THD	Total Harmonic Distortion V = 1Vrms f = 1KHz		0.01	0.1	%
S/N	Signal to Noise Ratio V_{out} = 1Vrms (mode = OFF)		106		dB
S_C	Channel Separation f = 1KHz		90		dB
	Input Gain in (2dB step)	0		30	dB
	Volume Control (1dB step)	-47		0	dB
	Treble Control (2dB step)	-14		+14	dB
	Bass Control (2dB step)	-14		+14	dB
	Balance Control 1dB step	-79		0	dB
	Mute Attenuation		100		dB

L17T/L19T BLOCK DIAGRAM



IMAGEQUEST		
Title	L17T/L19T	
Size	Document Number: Block Diagram	Rev: VP2
Date: Wednesday, April 23, 2003	Sheet 7 of 7	

PART LIST

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
1	C101	2122240044	CAP-C-C,0.22UF 50V Z Y5V 1608	
2	C102	2121020039	CAP-C-C,1000PF 50V K X7R 1608	
3	C103	2123310021	CAP-C-C,330PF 50V J NP0 1608	
4	C104	2123310021	CAP-C-C,330PF 50V J NP0 1608	
5	C105	2126840013	CAP-C-C,0.68UF 50V Z Y5V 1608	
6	C106	2121000029	CAP-C-C,10PF 50V J COG 1608	
7	C107	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
8	C108	2012200005	CAP-AL-C,22UF 16V M 5052	
9	C109	2123310021	CAP-C-C,330PF 50V J NP0 1608	
10	C110	2123310021	CAP-C-C,330PF 50V J NP0 1608	
11	C111	2121000029	CAP-C-C,10PF 50V J COG 1608	
12	C112	2126840013	CAP-C-C,0.68UF 50V Z Y5V 1608	
13	C113	2012200005	CAP-AL-C,22UF 16V M 5052	
14	C114	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
15	C115	2123310021	CAP-C-C,330PF 50V J NP0 1608	
16	C116	2123310021	CAP-C-C,330PF 50V J NP0 1608	
17	C117	2011000006	CAP-AL-C,10UF 16V M 4052	
18	C118	2124730035	CAP-C-C,0.047UF 50V Z Y5V 1608	
19	C119	2126840013	CAP-C-C,0.68UF 50V Z Y5V 1608	
20	C120	2123310021	CAP-C-C,330PF 50V J NP0 1608	
21	C121	2123310021	CAP-C-C,330PF 50V J NP0 1608	
22	C201	2012200005	CAP-AL-C,22UF 16V M 5052	
23	C202	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
24	C203	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
25	C204	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
26	C205	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
27	C206	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
28	C207	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
29	C208	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
30	C209	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
31	C210	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
32	C211	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
33	C212	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
34	C213	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
35	C214	2012200005	CAP-AL-C,22UF 16V M 5052	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
36	C215	2121050045	CAP-C-C,1UF 50V Z Y5V 1608	
37	C216	2121050045	CAP-C-C,1UF 50V Z Y5V 1608	
38	C217	2121050045	CAP-C-C,1UF 50V Z Y5V 1608	
39	C218	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
40	C219	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
41	C220	2013300005	CAP-AL-C,33UF 10V M 5052	
42	C221	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
43	C222	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
44	C223	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
45	C224	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1608	
46	C225	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1608	
47	C226	2121000029	CAP-C-C,10PF 50V J COG 1608	
48	C227	2121000029	CAP-C-C,10PF 50V J COG 1608	
49	C228	CK7FXA1H103K	CAP-CC,0.01UF 50V K X7R 1608	
50	C232	2124730035	CAP-C-C,0.047UF 50V Z Y5V 1608	
51	C233	CC7FCA1H330J	CAP-CC,33PF 50V J 1608	
52	C234	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
53	C235	2011000006	CAP-AL-C,10UF 16V M 4052	
54	C236	2011000006	CAP-AL-C,10UF 16V M 4052	
55	C237	2121000029	CAP-C-C,10PF 50V J COG 1608	
56	C238	2012200005	CAP-AL-C,22UF 16V M 5052	
57	C239	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
58	C240	2012200005	CAP-AL-C,22UF 16V M 5052	
59	C241	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
60	C242	2012200005	CAP-AL-C,22UF 16V M 5052	
61	C243	2012200005	CAP-AL-C,22UF 16V M 5052	
62	C244	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
63	C245	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
64	C246	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
65	C247	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
66	C248	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
67	C249	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
68	C250	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
69	C251	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
70	C252	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
71	C253	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
72	C254	2121000029	CAP-C-C,10PF 50V J COG 1608	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
73	C255	2121050045	CAP-C-C,1UF 50V Z Y5V 1608	
74	C302	2011000006	CAP-AL-C,10UF 16V M 4052	
75	C303	2014700009	CAP-AL-C,47UF 16V M 6352	
76	C304	2122700013	CAP-C-C,27PF 50V J COG 1608	
77	C305	2122700013	CAP-C-C,27PF 50V J COG 1608	
78	C306	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
79	C307	2011000006	CAP-AL-C,10UF 16V M 4052	
80	C309	CC7FCA1H101J	CAP-C-C,100PF 50V J COG 1608	
81	C310	CC7FCA1H101J	CAP-C-C,100PF 50V J COG 1608	
82	C311	CC7FCA1H101J	CAP-C-C,100PF 50V J COG 1608	
83	C312	CC7FCA1H101J	CAP-C-C,100PF 50V J COG 1608	
84	C313	CC7FCA1H101J	CAP-C-C,100PF 50V J COG 1608	
85	C314	CC7FCA1H101J	CAP-C-C,100PF 50V J COG 1608	
86	C315	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
87	C316	2011000006	CAP-AL-C,10UF 16V M 4052	
88	C317	CC7FCA1H101J	CAP-C-C,100PF 50V J COG 1608	
89	C401	2124710037	CAP-C-C,470PF 50V J COG 1608	
90	C501	2011010014	CAP-AL-C,100UF 16V M 6357	
91	C502	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
92	C503	2121050045	CAP-C-C,1UF 50V Z Y5V 1608	
93	C504	2012200005	CAP-AL-C,22UF 16V M 5052	
94	C505	2012200005	CAP-AL-C,22UF 16V M 5052	
95	C506	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
96	C507	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
97	C508	2011010014	CAP-AL-C,100UF 16V M 6357	
98	C509	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
99	C510	2012200005	CAP-AL-C,22UF 16V M 5052	
100	C511	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
101	C512	2012200005	CAP-AL-C,22UF 16V M 5052	
102	C513	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
103	C514	2011010014	CAP-AL-C,100UF 16V M 6357	
104	C601	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
105	C602	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
106	C603	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
107	C604	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
108	C605	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
109	C606	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
110	C607	2012200005	CAP-AL-C,22UF 16V M 5052	
111	C608	2121040045	CAP-C-C,0.1UF 50V Z Y5V 1608	
112	C609	2121050045	CAP-C-C,1UF 50V Z Y5V 1608	
113	C610	2121050045	CAP-C-C,1UF 50V Z Y5V 1608	
114	CN301	3720101978	CONN-M,SMW200-15 15	
115	CN302	372010139501	CONN-M,SMAW200-12P	
116	CN401	E4204307601A	CONN,D-SUB 15P FEMALE STICK	
117	CN601	3720101983	CONN-M,12507WR-30A00 30	
118	CON503	3720101389	CONN-M,SMW200-07P	
119	D201	3200001549	IC-LIN,KA431 SOT	
120	D301	3101000382	DI-ZN,Z02W5.6V Y SMD	
121	D401	3100100038	DI-AR,KDS226 SMD	
122	D402	3100100038	DI-AR,KDS226 SMD	
123	D403	3100100038	DI-AR,KDS226 SMD	
124	D404	3101000382	DI-ZN,Z02W5.6V Y SMD	
125	D405	3101000382	DI-ZN,Z02W5.6V Y SMD	
126	D406	3101000382	DI-ZN,Z02W5.6V Y SMD	
127	FB501	RK1JC0T0000J	RES-C,0 0.063W J 1608	
128	L101	3540800060	COR-CHP,FI-B2012-222KJT	
129	L102	3540800060	COR-CHP,FI-B2012-222KJT	
130	L103	3540800060	COR-CHP,FI-B2012-222KJT	
131	L104	3540800060	COR-CHP,FI-B2012-222KJT	
132	L201	RK1JC0T0000J	RES-C,0 0.063W J 1608	
133	L202	3540800054	COR-CHP,HB-1M1608-600JT	
134	L203	RK1JC0T0000J	RES-C,0 0.063W J 1608	
135	L204	3540800054	COR-CHP,HB-1M1608-600JT	
136	L205	RK1JC0T0000J	RES-C,0 0.063W J 1608	
137	L206	3540800054	COR-CHP,HB-1M1608-600JT	
138	L401	RK1JC0T0000J	RES-C,0 0.063W J 1608	
139	L402	RK1JC0T0000J	RES-C,0 0.063W J 1608	
140	L403	RK1JC0T0000J	RES-C,0 0.063W J 1608	
141	Q501	TT2N3904D	TR,SMD 2N3904D TAPPING	
142	R101	2607509008	RES-C,75 0.063W J 1608	
143	R102	2607509008	RES-C,75 0.063W J 1608	
144	R103	2607509008	RES-C,75 0.063W J 1608	
145	R104	2607509008	RES-C,75 0.063W J 1608	
146	R105	RK1JC0T0000J	RES-C,0 0.063W J 1608	

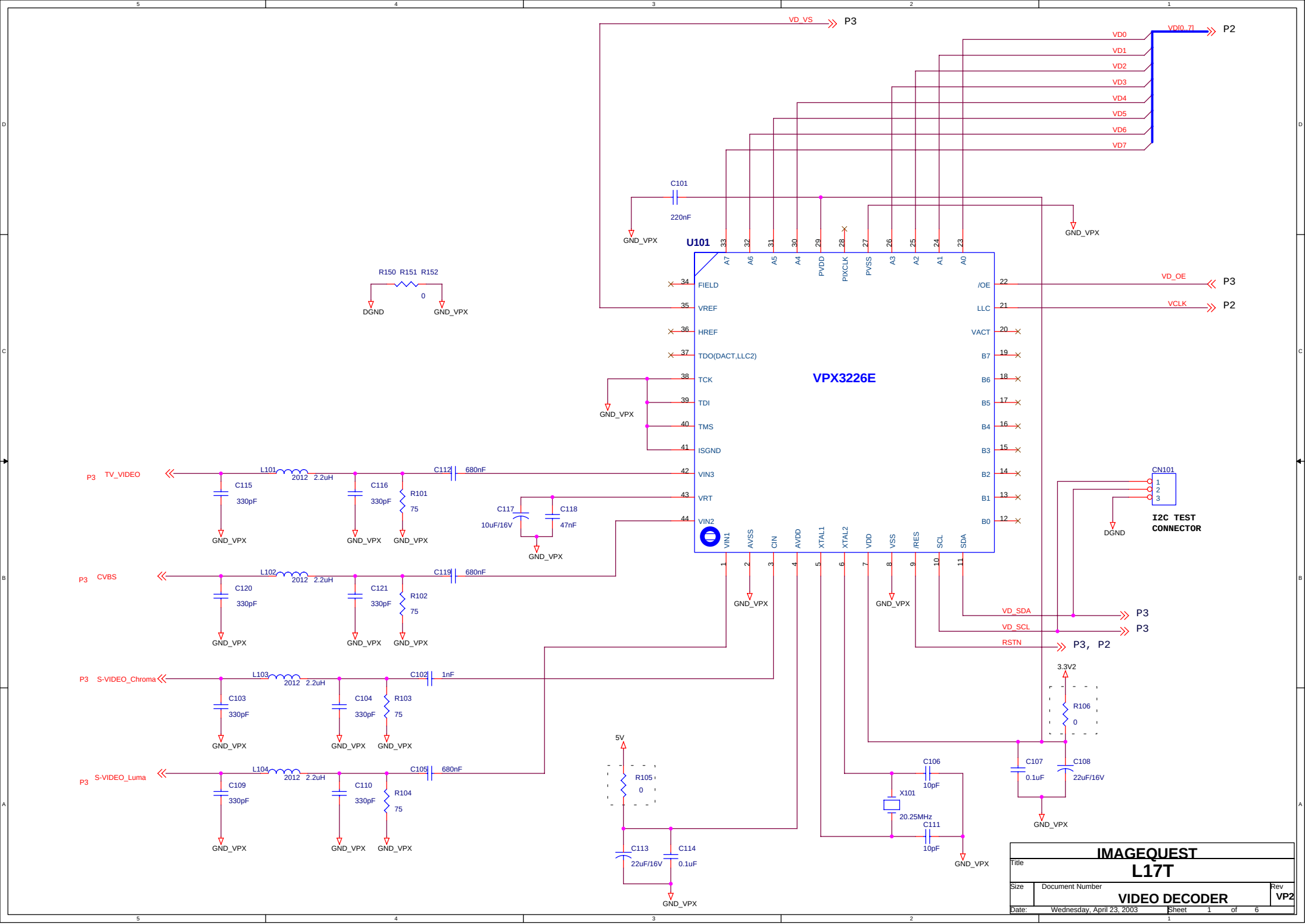
NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
147	R106	RK1JC0T0000J	RES-C,0 0.063W J 1608	
148	R150	RK1JC0T0000J	RES-C,0 0.063W J 1608	
149	R151	RK1JC0T0000J	RES-C,0 0.063W J 1608	
150	R152	RK1JC0T0000J	RES-C,0 0.063W J 1608	
151	R203	RK1JC0T0101J	RES-C,100 0.063W J 1608	
152	R204	RK1JC0T0821J	RES CHIP 820 5% 1/16W	
153	R205	RK1JC0T0220J	RES-C,22 0.063W J 1608	
154	R206	2601509017	RES-C,15 0.1W J 1608	
155	R207	2601509017	RES-C,15 0.1W J 1608	
156	R208	2601509017	RES-C,15 0.1W J 1608	
157	R210	RK1JC0T0000J	RES-C,0 0.063W J 1608	
158	R211	RK1JC0T0101J	RES-C,100 0.063W J 1608	
159	R213	RK1JC0T0000J	RES-C,0 0.063W J 1608	
160	R214	RK1JC0T0000J	RES-C,0 0.063W J 1608	
161	R302	RK1JC0T0152J	RES-C,1.5K 0.063W J 1608	
162	R303	RK1JC0T0101J	RES-C,100 0.063W J 1608	
163	R304	2603302014	RES-C,33K 0.1W J 1608	
164	R305	RK1JC0T0105J	RES-C,1M 0.063W J 1608	
165	R306	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
166	R307	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
167	R308	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
168	R309	RK2AC0T0331J	RES-CHIP 330J 1/10W 1608	
169	R310	RK1JC0T0152J	RES-C,1.5K 0.063W J 1608	
170	R318	RK1JC0T0101J	RES-C,100 0.063W J 1608	
171	R319	RK1JC0T0101J	RES-C,100 0.063W J 1608	
172	R320	RK1JC0T0152J	RES-C,1.5K 0.063W J 1608	
173	R321	RK1JC0T0101J	RES-C,100 0.063W J 1608	
174	R323	RK1JC0T0101J	RES-C,100 0.063W J 1608	
175	R324	RK1JC0T0100J	RES-C,10 0.063W J 1608	
176	R325	RK1JC0T0100J	RES-C,10 0.063W J 1608	
177	R326	RK1JC0T0101J	RES-C,100 0.063W J 1608	
178	R327	RK1JC0T0101J	RES-C,100 0.063W J 1608	
179	R330	2605609008	RES-C,56 0.1W J 1608	
180	R351	RK1JC0T0000J	RES-C,0 0.063W J 1608	
181	R352	RK1JC0T0000J	RES-C,0 0.063W J 1608	
182	R353	RK1JC0T0101J	RES-C,100 0.063W J 1608	
183	R354	RK1JC0T0101J	RES-C,100 0.063W J 1608	

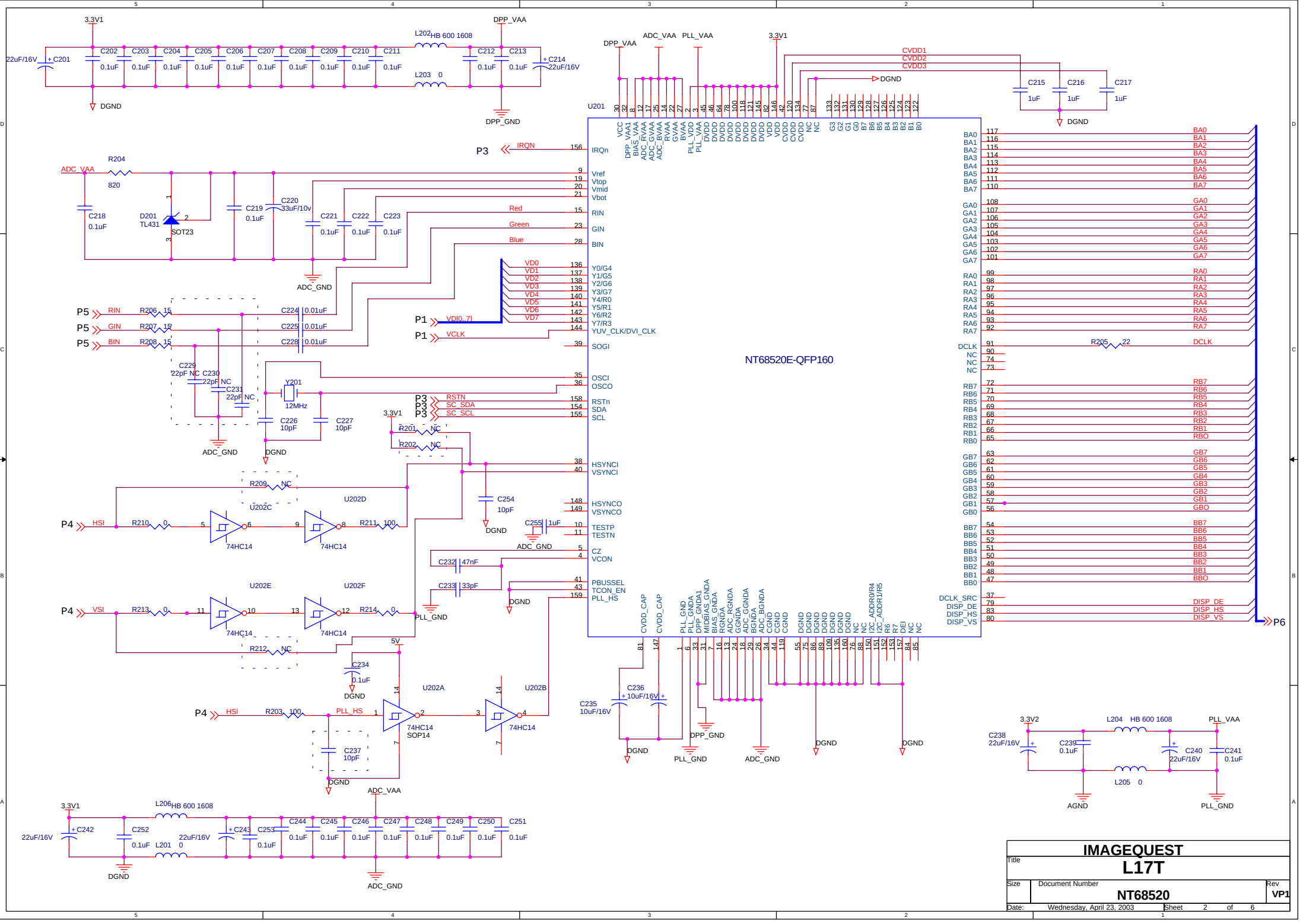
NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
184	R355	RK1JC0T0471J	RES-C,470 0.063W J 1608	
185	R356	RK2AC0T0331J	RES-CHIP 330J 1/10W 1608	
186	R357	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
187	R358	RK1JC0T0221J	RES-C,220 0.063W J 1608	
188	R402	2607509008	RES-C,75 0.063W J 1608	
189	R403	RK1JC0T0103J	RES-C,10K 0.063W J 1608	
190	R405	2607509008	RES-C,75 0.063W J 1608	
191	R406	RK1JC0T0101J	RES-C,100 0.063W J 1608	
192	R407	RK1JC0T0101J	RES-C,100 0.063W J 1608	
193	R408	2607509008	RES-C,75 0.063W J 1608	
194	R409	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
195	R410	RK1JC0T0472J	RES-CHIP 4.7K J 1/16W 1608	
196	R501	RK1JC0T0473J	RES-C,47K 0.063W J 1608	
197	R502	RK1JC0T0473J	RES-C,47K 0.063W J 1608	
198	R601	RK1JC0T0000J	RES-C,0 0.063W J 1608	
199	R602	RK1JC0T0000J	RES-C,0 0.063W J 1608	
200	R604	RK1JC0T0000J	RES-C,0 0.063W J 1608	
201	R605	RK1JC0T0000J	RES-C,0 0.063W J 1608	
202	R606	RK1JC0T0000J	RES-C,0 0.063W J 1608	
203	R607	RK1JC0T0000J	RES-C,0 0.063W J 1608	
204	R608	RK1JC0T0000J	RES-C,0 0.063W J 1608	
205	U101	3205001405	IC-U,VPX 3226E PMQFP VIDEO DEC	
206	U201	3205001400	IC-U,NT68520-E QFP SCALER CHIP	
207	U202	3202001505	IC-TTL,74LCX14M14A SOI	
208	U301	3205001416	IC-U,NT68F632 44PIN PLCC	
209	U301	3721100621	CONN-F,PLL-44-PPS-T-M 44	
210	U302	3203000758	IC-MEMO,AT24C16AN-10SI-2.7	
211	U501	3200001392	IC-LIN,RC1117-3.3 SOT	
212	U502	3114000189	FET,GFC654 SMD	
213	U503	3200001392	IC-LIN,RC1117-3.3 SOT	
214	U601	3202001513	IC-TTL,NT7181CF TSOP02 LVDS CH	
215	U602	3202001513	IC-TTL,NT7181CF TSOP02 LVDS CH	
216	X101	3530200616	VIB-QUARTZ,SMD 20.25MHZ 20.25M	
217	Y201	3530200537	VIB-QUARTZ,SX-1 12MHZ SMD 18PF	
218	Y301	3530200537	VIB-QUARTZ,SX-1 12MHZ SMD 18PF	
219		3200001310	IC-LIN,TDA7496L DIP	
220		3200001584	IC-LIN,TDA7440D SO28	

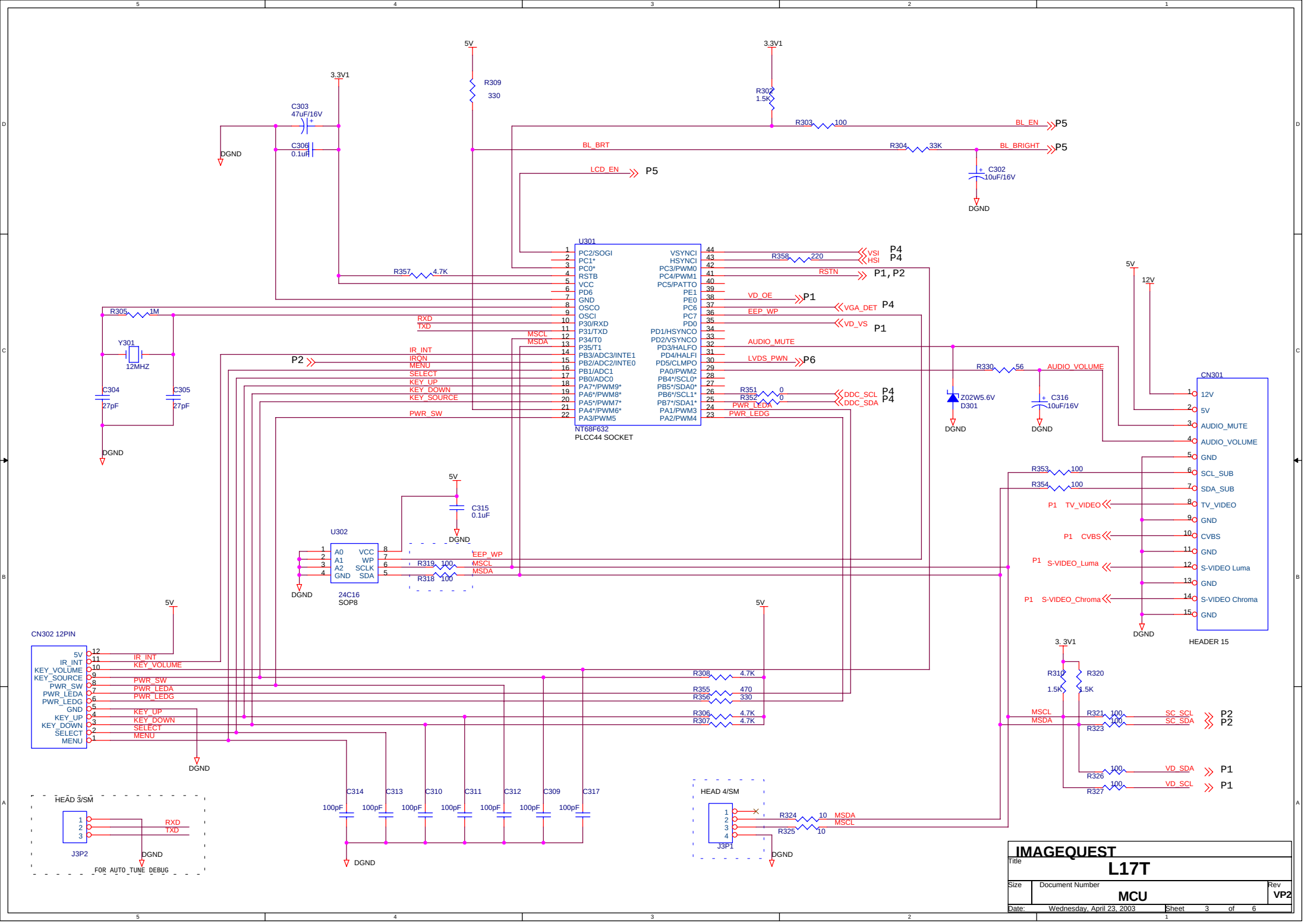
NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
221		3330500256	LCD,LTM190E1-L01 SS	
222		3550100117	SPEAKER ASS'Y, L19T	
223		3725005253	CONN-A,LVDS CABLE Q17 30	
224		3725005300	POWER+INVERTER CABLE, L90D	
225		3755000912	WIRE-ASS'Y,300MM RING TERMINAL	
226		3758500474	CBL-SGN,1.5MT BLACK 5.5PAI DET	
227		5001000579	SCR-MC,BIN + MC 3*8	
228		5001000662	SCR-MC,BIN + MC 3X4	
229		5004000187	SCR-TT2,BIN(+) MC 4*14	
230		5004000197	SCR-TT,BIN + MC 3X10	
231		6101221800	STAND HINGE "L",L17T/L19T	
232		6101221900	STAND HINGE "R",L17T/L19T	
233		6101222000	PLATE BOTTOM,L17T/L19T	
234		6101222100	MAIN FRAME ASSY/E,L19T	
235		6101222200	MAIN FRAME,L19T	
236		6110282000	BRACKET WHASHER,L17T/L19T	
237		6115025400	HINGE ASSY,L17T/L19T	
238		6115025500	HINGE PANEL "L",L17T/L19T	
239		6115025600	HINGE PANEL "R",L17T/L19T	
240		6115025700	HINGE STOPPER,L17T/L19T	
241		6115025800	TILT STOPPER,L17T/L19T	
242		6128010173	GASKET EMI,8X3TX70	
243		6128010174	GASKET EMI, 8X3TX110	
244		6128010175	GASKET EMI, 8X3TX180	
245		6128010176	GASKET EMI,12X10TX110	
246		6128010177	GASKET EMI,10X15TX15	
247		6201322501	STAND FRONT,L17T SILVER	
248		6201322601	STAND REAR,L17T D.G	
249		6201322701	STAND LEFT, L17T D.G	
250		6201322801	STAND RIGHT, L17T D.G	
251		6201323201	COVER FRONT,L19T SILVER	
252		6201323301	COVER PANEL,L19T SILVER	
253		6201323402	COVER REAR,L19T WITH LOGO D.G	
254		6201323501	COVER F.ASSY,L19T SILVER	
255		6201324001	TUNER COVER NO HOLE,L17T D.G	
256		6210107111	AL TAPE,80X80 PE COATING	
257		6210107117	AL TAPE(40*300)	

NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
258		6215242001	KNOB OSD TV,L19T SILVER	
259		6215242201	HINGE CAP " L", L19T D.G	
260		6215242301	HINGE CAP " R", L19T D.G	
261		6220086100	MULTI GUIDE,L17T/L19T	
262		6220086200	AUDIO GUIDE,L17T/L19T	
263		6220086300	LENS LED,L19T	
264		6223066800	HOLDER,HANDLE TOP	
265		6223066900	HOLDER,HANDLE BOTTOM	
266		6243028300	BAG,PE(ST) CLEAR 14/15ALL	
267		6243037901	MANUAL PE BAG	
268		6253119400	PAD FOAM EVA 11X30X5	
269		6253120900	CUSHION "L",L19T	
270		6253121000	CUSHION "R",L19T	
271		6261044701	RUBBER SCREW,L17T D.G	
272		6301191400	PALLET PAD,ALL MODEL,SW-3	
273		6301192100	BAND SQUARE,SW-3S527/S727	
274		6301194600	BOX CARTON SW-3,L19T	
275		6309030000	PAD,PALLET CTN PBE/U 1517	
276		6309037300	PAD,PALLET ANGLE	
277		6316332933	BACK LABEL,L90D/99 IQT(EXP)/SI	
278		6316349271	BAR-CODE Q15 EXP/OTTO	
279		6316349298	SMALL TCO'99 CABINET STICKER	
280		6327037630	WARRANTY CARD HIA ALL	
281		301070081901	OSD B/D ASS'Y, L17T/L19T	
282		301070082201	AUDIO B/D ASSY,L17T/L19T	
283		304100105301	PCB-DOUBLE,L17T/L19T MAIN F4 4	
284		361020011601	POWER+INVERTER,L90D	⚠
285		372500527001	CONN-A, 15P MULTI CABLE L17T/L	
286		375850041602	CBL-SGN,AUDIO INPUT CABLE 1	
287		620132240002	STAND ASSY,L17T SILVER/D.G	
288		631634925501	SILVER STICKER	
289		632023022901	CD MANUAL IQT(EXP) ALL	
290		632703520303	INSTALL GUIDE & SERVICE CENTER	
291		B4204669501	KIT LAB & MAN,L19T HIA/SILVER	
292		B4210334403	LCD MEC ASSY/S,L19T SILVER	
293		B4210334502	KIT COVER ASSY,L19T SILVER	
294		B4210334601	PACKING ASSY,L19T	

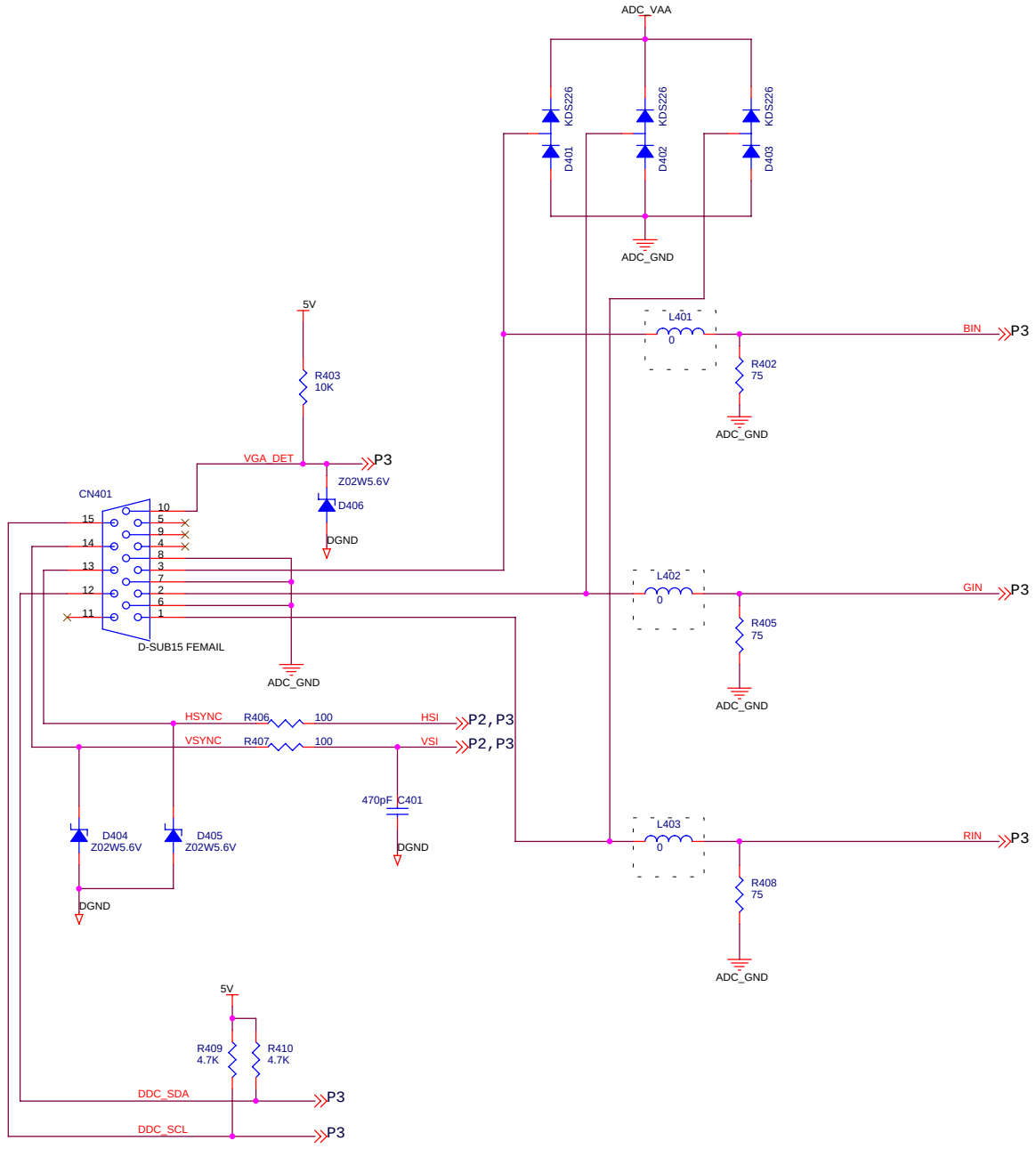
NO	LOCATION	PART NUMBER	DESCRIPTION	REMARK
295		E4205020101	MAIN ASSY,L19T EXP	
296		E42077006010	CORD AC,SVT 120V WALL N-SHIELD	
297		E4208422211	PCBA MA(A1*),L17T	
298		E4208522201	PCBA MA(I1*),L17T	
299		E4208622301	PCBA MA(T1*),L19T	
300		M17744006012	SCREW,BIN(+) M4*6 MSZPC	
301		UKIA7808PI	IC,VOLT REGU.KIA7808PI	


VD_VS
P3
VD[0..7]
P2
VD0
VD1
VD2
VD3
VD4
VD5
VD6
VD7
C101
220nF
GND_VPX
U101
VPX3226E
FIELD
VREF
HREF
TDO(DACT,LLC2)
TCK
TDI
TMS
ISGND
VIN3
VRT
VIN2
VIN1
AVSS
CIN
AVDD
XTAL1
XTAL2
VDD
VSS
/RES
SCL
SDA
/OE
LLC
VACT
B7
B6
B5
B4
B3
B2
B1
B0
VD_OE
VCLK
R150 R151 R152
0
DGND
P3 TV_VIDEO
L101 2012 2.2uH
C115 330pF
C116 330pF
R101 75
C112 680nF
C117 10uF/16V
C118 47nF
P3 CVBS
L102 2012 2.2uH
C120 330pF
C121 330pF
R102 75
C119 680nF
P3 S-VIDEO_Chroma
L103 2012 2.2uH
C103 330pF
C104 330pF
R103 75
C102 1nF
P3 S-VIDEO_Luma
L104 2012 2.2uH
C109 330pF
C110 330pF
R104 75
C105 680nF
CN101
I2C TEST CONNECTOR
VD_SDA
VD_SCL
RSTN
P3, P2
3.3V2
R106 0
C107 0.1uF
C108 22uF/16V
5V
R105 0
C113 22uF/16V
C114 0.1uF
X101 20.25MHz
C106 10pF
C111 10pF
IMAGEQUEST
L17T
VIDEO DECODER
VP2
Wednesday, April 23, 2003
Sheet 1 of 6


NT68520E-QFP160
U201
P3
P1
P4
P5
P6
IRQn
RIN
GIN
BIN
VD0
VD1
VD2
VD3
VD4
VD5
VD6
VD7
VDI[0..7]
VCLK
SOGI
OSCI
OSCO
RSTn
SDA
SCL
HSYNCI
VSYNCI
HSYNCO
VSYNCO
TESTP
TESTN
CZ
VCON
PBUSSEL
TCON_EN
PLL_HS
RSTN
SC_SDA
SC_SCL
DCLK
DCLK_SRC
DISP_DE
DISP_HS
DISP_VS
HSI
VSI
PLL_HS
74HC14
SOP14
TL431
SOT23
12MHz
IMAGEQUEST
L17T
NT68520
VP1
Wednesday, April 23, 2003
Sheet 2 of 6



IMAGEQUEST		
Title: L17T		
Size	Document Number: MCU	Rev: VP2
Date: Wednesday, April 23, 2003	Sheet 3 of 6	



IMAGEQUEST		
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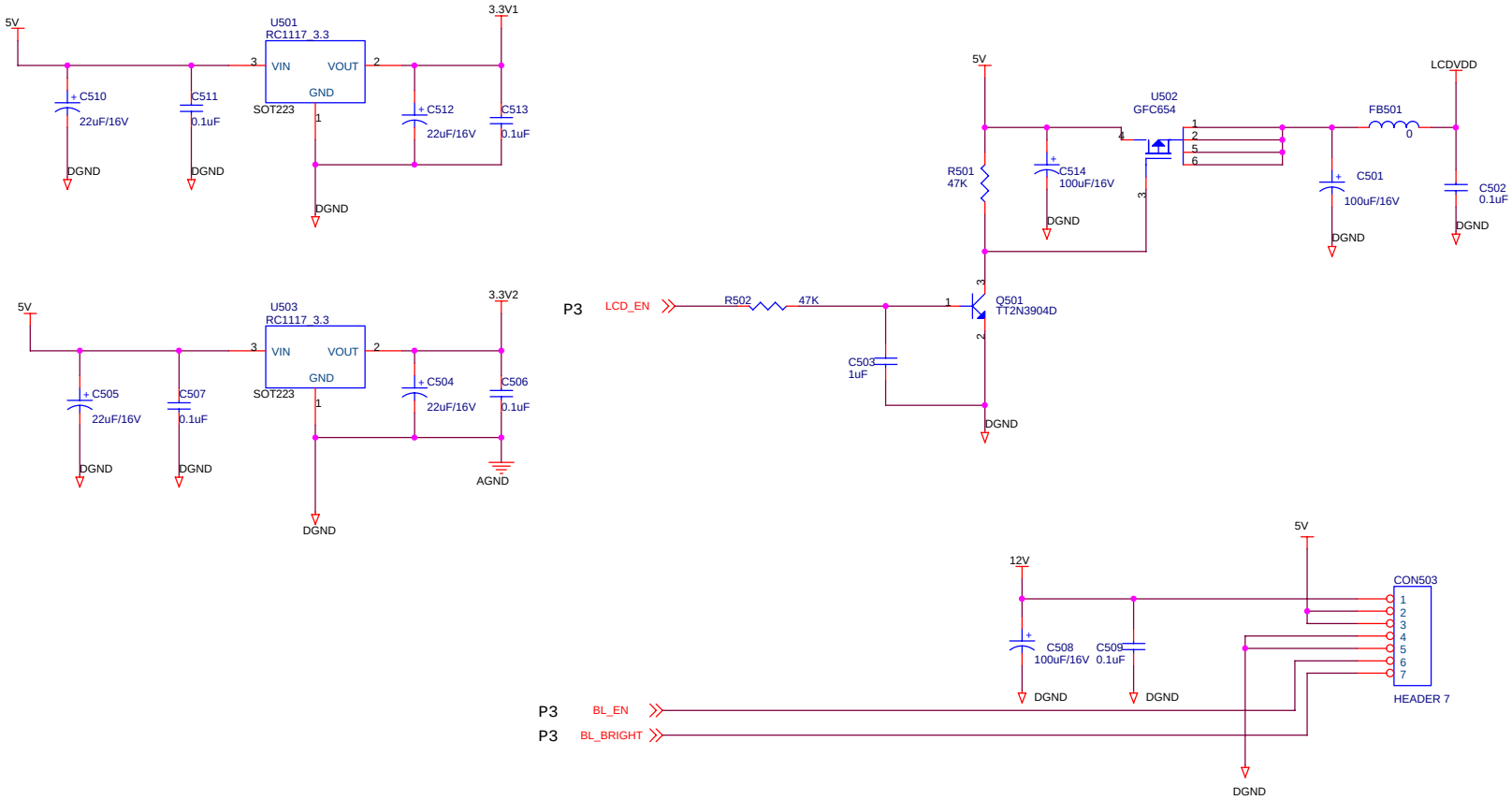
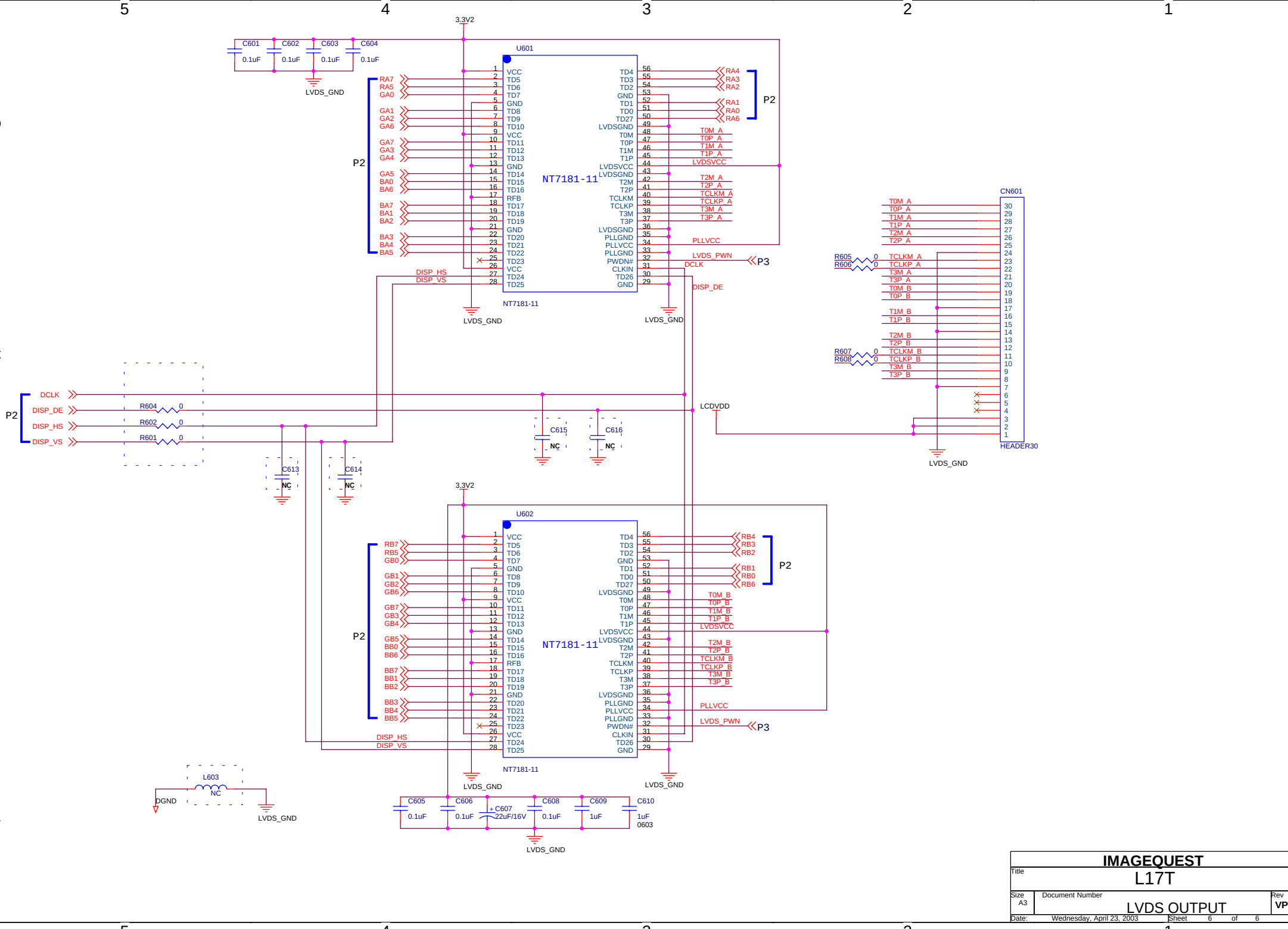
Size	Document Number: VGA INPUT	Rev: VP2
Date: Wednesday, April 23, 2003	Sheet 4 of 6	



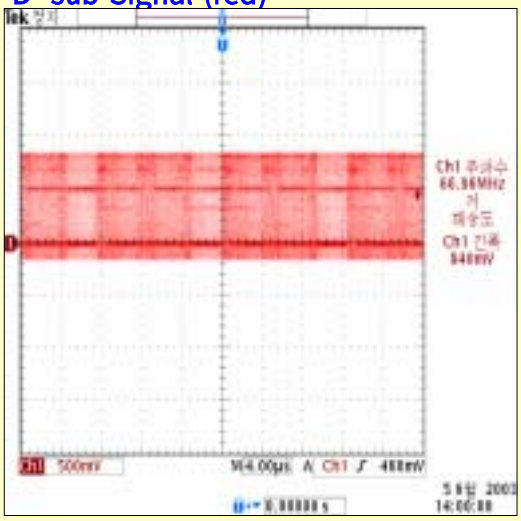
Back Light Connector

IMAGEQUEST		
Title: L17T		
Size	Document Number: POWER	Rev: VP2
Date: Wednesday, April 23, 2003	Sheet 5 of 6	

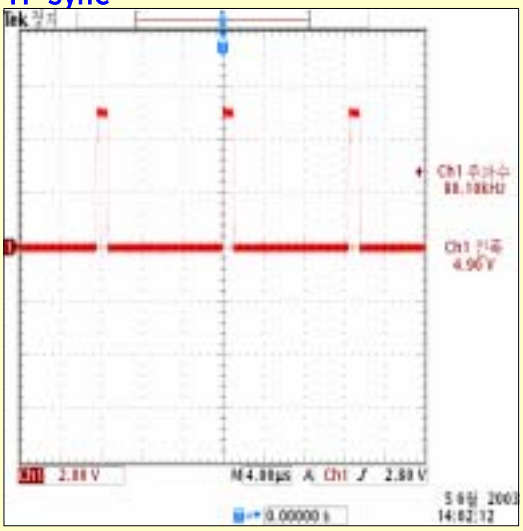

3.3V2
C601 0.1uF
C602 0.1uF
C603 0.1uF
C604 0.1uF
LVDS_GND
U601
NT7181-11
VCC TD5 TD6 TD7 GND TD8 TD9 TD10 VCC TD11 TD12 TD13 GND TD14 TD15 TD16 RFB TD17 TD18 TD19 GND TD20 TD21 TD22 TD23 VCC TD24 TD25
TD4 TD3 TD2 GND TD1 TD0 TD27 LVDSGND T0M T0P T1M T1P LVDSVCC LVDSGND T2M T2P TCLKM TCLKP T3M T3P LVDSGND PLLGND PLLVCC PLLGND PWDN# CLKIN TD26 GND
RA7 RA5 GA0 GA1 GA2 GA6 GA7 GA3 GA4 GA5 BA0 BA6 BA7 BA1 BA2 BA3 BA4 BA5
RA4 RA3 RA2 RA1 RA0 RA6
P2
T0M_A T0P_A T1M_A T1P_A LVDSVCC T2M_A T2P_A TCLKM_A TCLKP_A T3M_A T3P_A PLLVCC LVDS_PWN DCLK DISP_DE
P3
DISP_HS DISP_VS
CN601
HEADER30
R605 0 R606 0 R607 0 R608 0
TCLKM_A TCLKP_A T3M_A T3P_A T0M_B T0P_B T1M_B T1P_B T2M_B T2P_B TCLKM_B TCLKP_B T3M_B T3P_B
DCLK DISP_DE DISP_HS DISP_VS
R604 0 R602 0 R601 0
C613 NC C614 NC C615 NC C616 NC
LCDVDD
U602
RB7 RB5 GB0 GB1 GB2 GB6 GB7 GB3 GB4 GB5 BB0 BB6 BB7 BB1 BB2 BB3 BB4 BB5
RB4 RB3 RB2 RB1 RB0 RB6
L603 NC
DGND
C605 0.1uF C606 0.1uF C607 22uF/16V C608 0.1uF C609 1uF C610 1uF 0603
IMAGEQUEST
L17T
LVDS OUTPUT
Size A3
Rev VP2
Date: Wednesday, April 23, 2003
Sheet 6 of 6

WAVE FORM

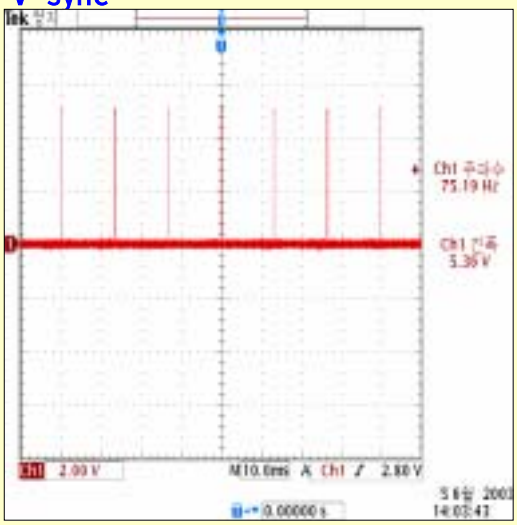
D-sub Signal (red)



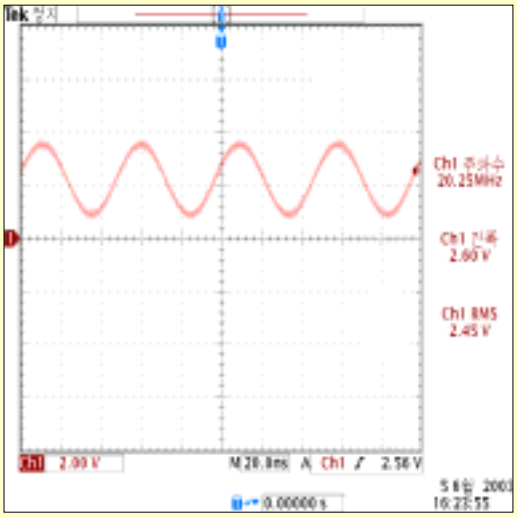
H-sync



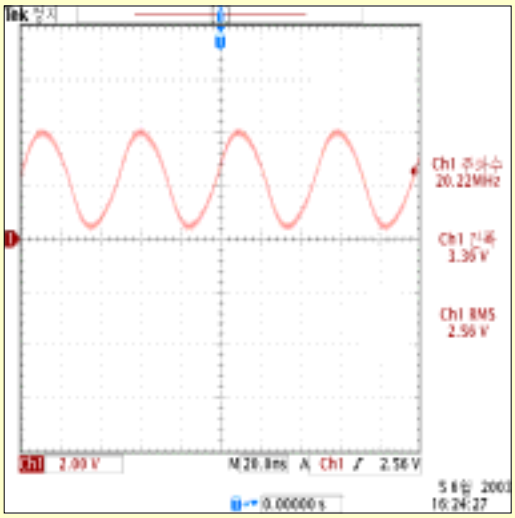
V-sync



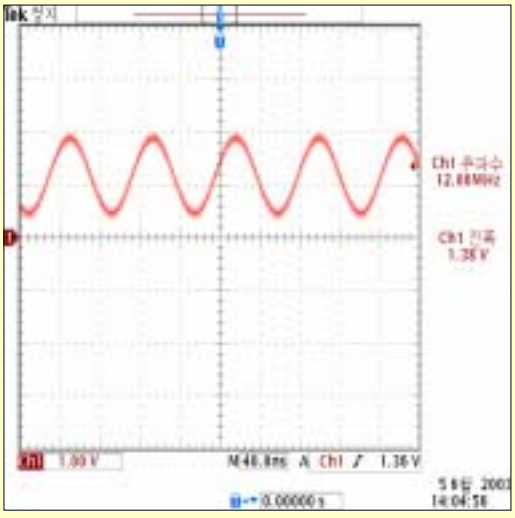
X101 20.25Mhz XTAL1



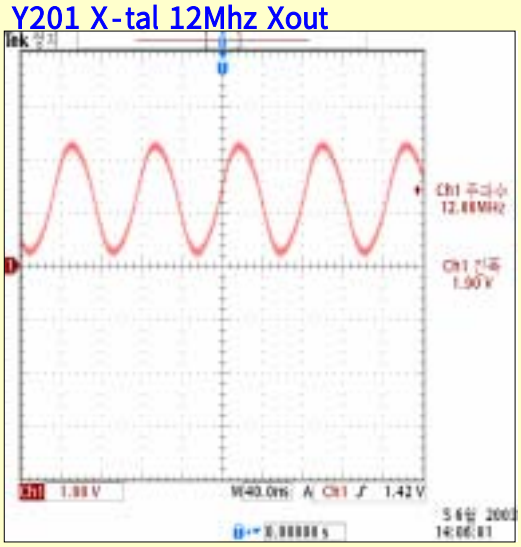
X101 20.25Mhz XTAL2



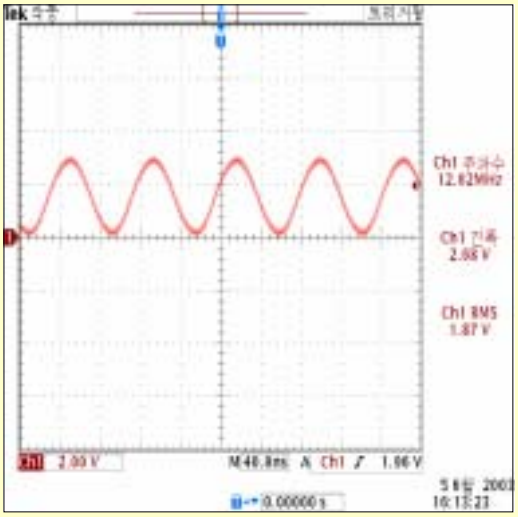
Y201 X-tal 12Mhz Xin



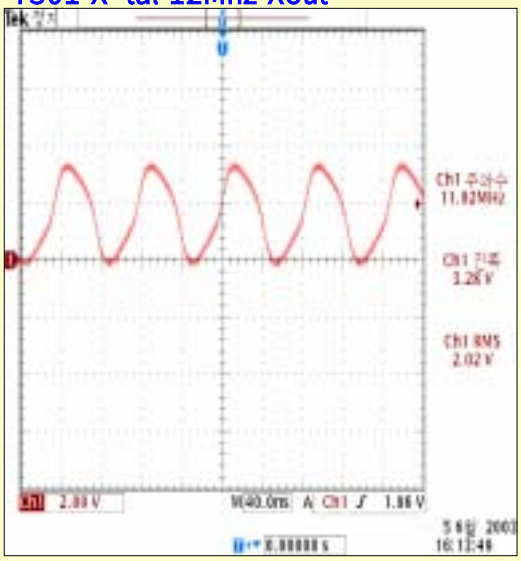
Y201 X-tal 12Mhz Xout



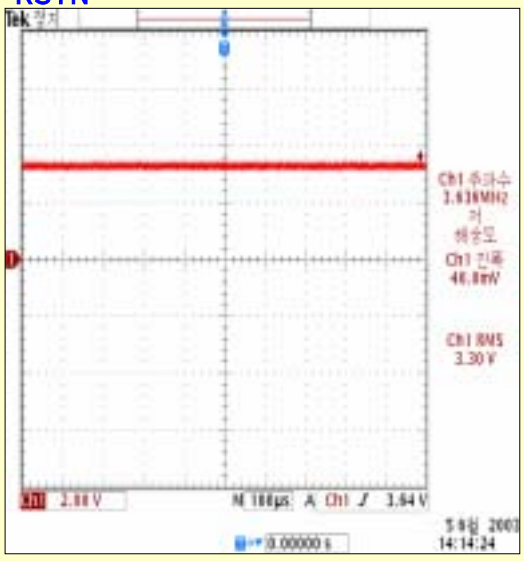
Y301 X-tal 12Mhz Xin



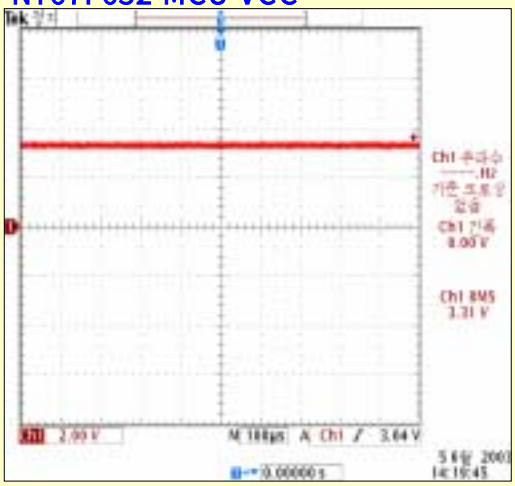
Y301 X-tal 12Mhz Xout



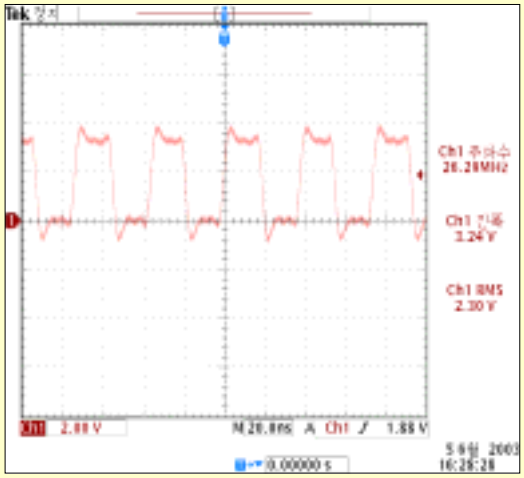
RSTN



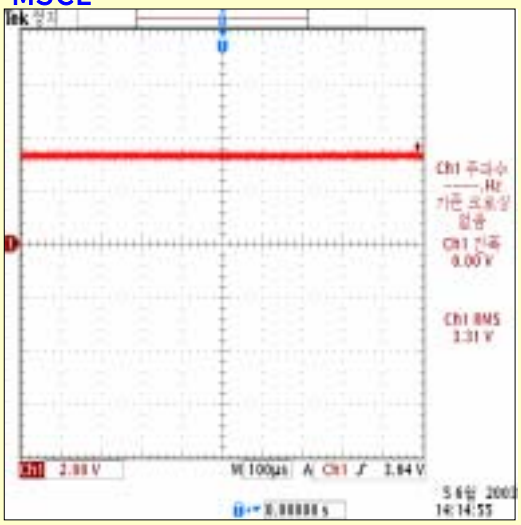
NT67F632 MCU VCC



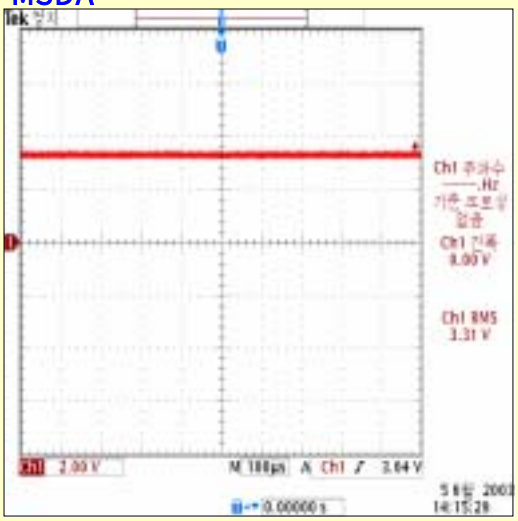
U101 VPX3226E VCLK



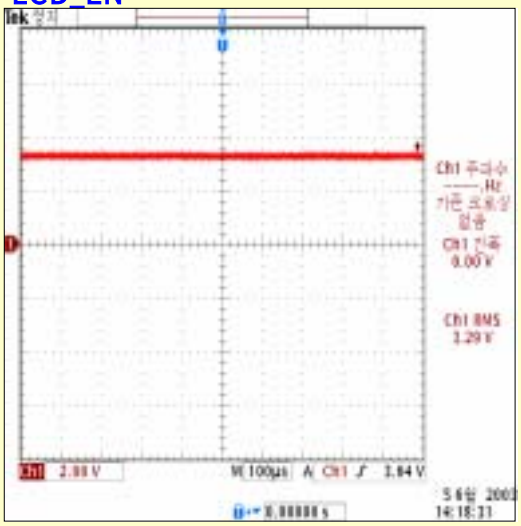
MSCL



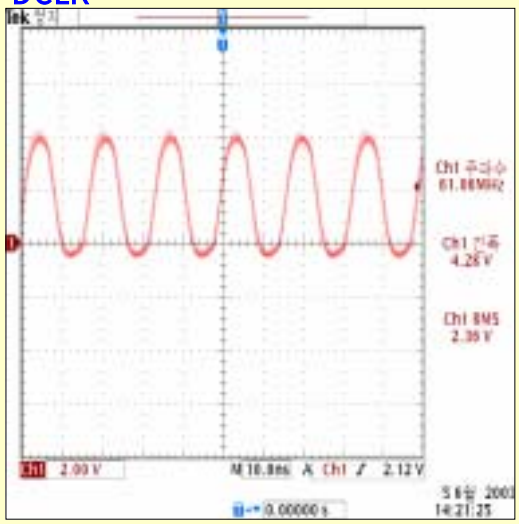
MSDA



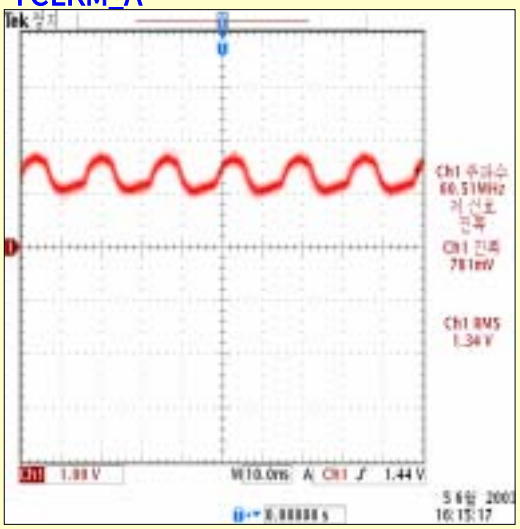
LCD_EN



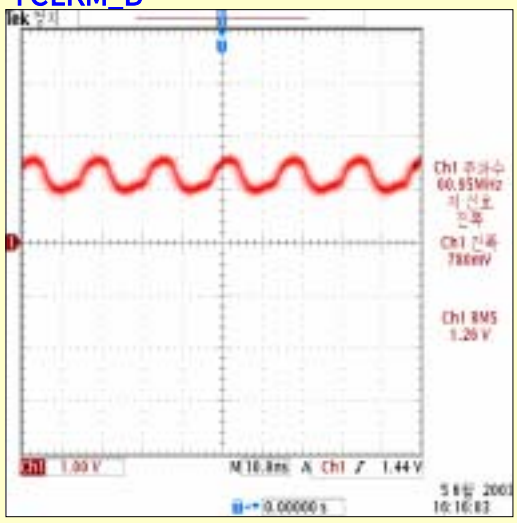
DCLK



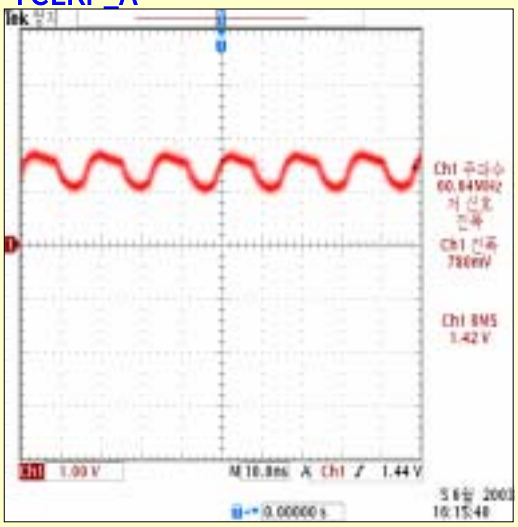
TCLKM_A



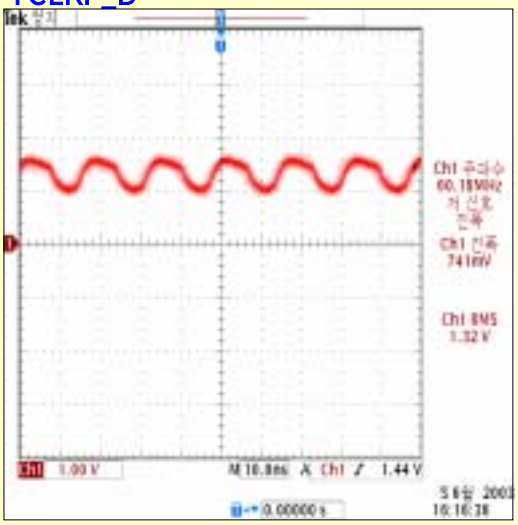
TCLKM_B



TCLKP_A



TCLKP_B



ImageQuest
MODEL : L17T / L19T
P/N : 304 1001 053 01

2▲94V-0
0314

CON503
CN601
U501
U601
U602
U201
U503
U301
U101
U120
U302
Y301
Y201
Q501
FB501
P401
J3P1
J3P2
CN301
D201
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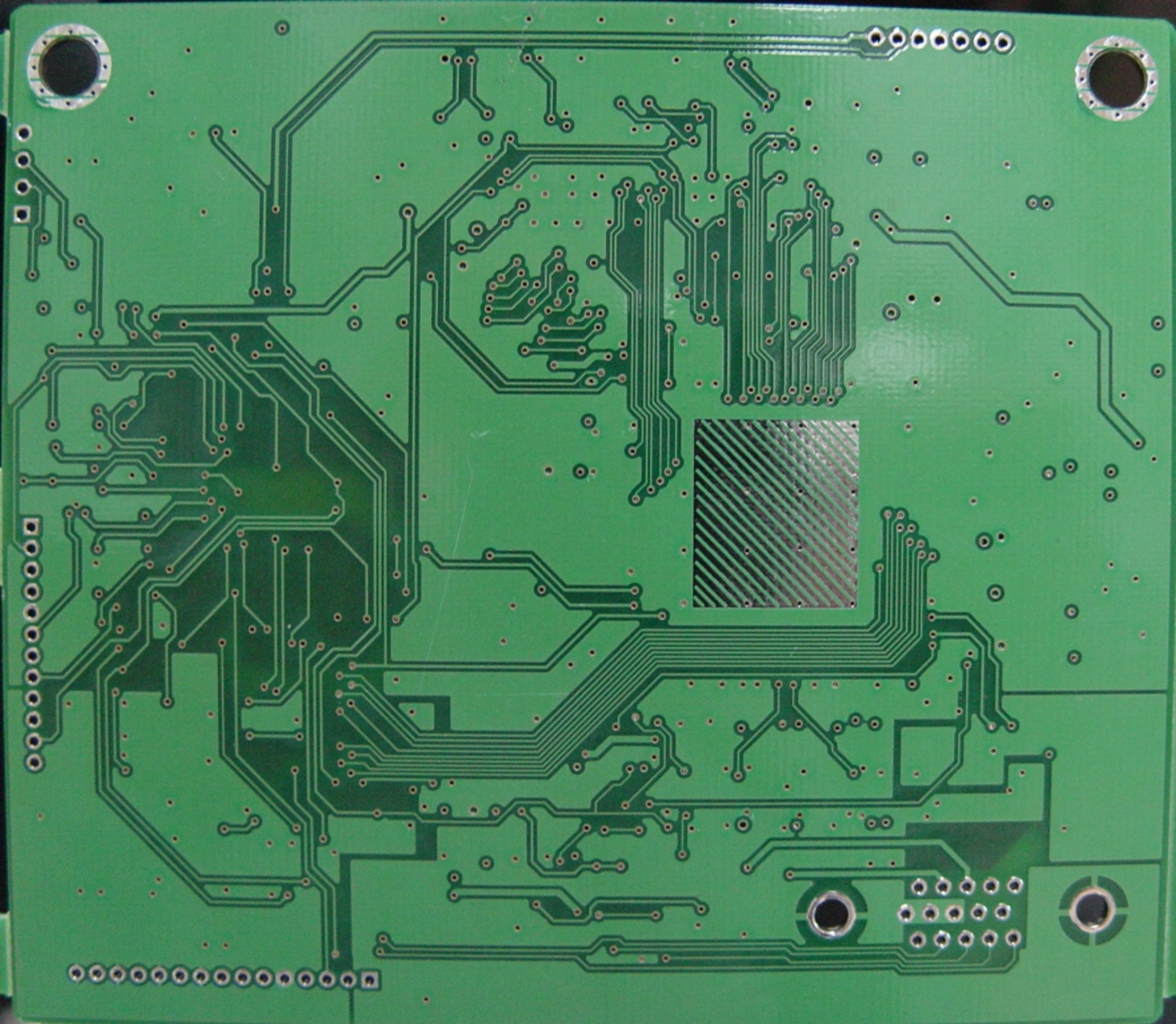
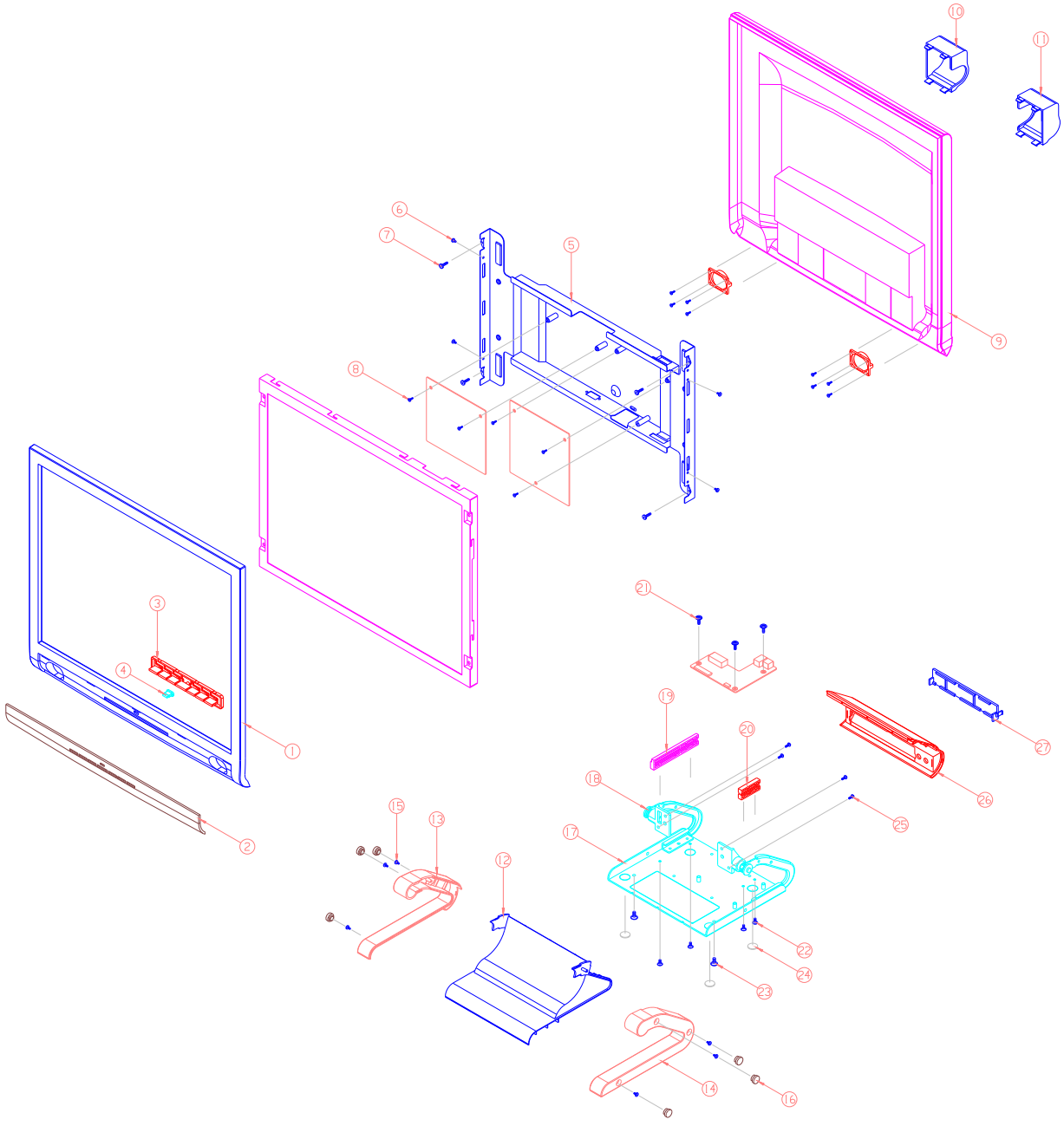
D403
D404
D405
D406





NO	PART NO	PART NAME	DESCRIPTION	QTY	REMARK
27	6201324001	TUNER COVER NO HOLE	ABS 94 HB	1	
26	6201322601	STAND REAR	ABS 94 HB	1	
25	5004000187	SCREW	BIN-TT 4X14	6	
24		RUBBER FOOT	PORON(ø-14)	4	
23	5003000056	SCREW	FLT-TT 4X11	6	
22		SCREW	FLT-TT 3X8	4	
21	5004000579	SCREW	BIN-MC 3X8	3	
20	6220086200	AUDIO GUIDE	ACRYL	1	
19	6220086100	MULTI GUIDE	ACRYL	1	
18	6115025400	HINGE ASSY	ZDC2	1	
17	6101222000	PLATE BOTTOM	GI T-2.0	1	
16	6261044701	RUBBER SCREW	SILICON	6	
15		SCREW	PAN-TT 3X10	6	
14	6201322801	STAND RIGHT	ABS 94 HB	1	
13	6201322701	STAND LEFT	ABS 94 HB	1	
12	6201322501	STAND FRONT	ABS 94 HB	1	
11	6215242301	HINGE CAP "R"	ABS 94 HB	1	
10	6215242201	HINGE CAP "L"	ABS 94 HB	1	
9	6201323402	COVER REAR	ABS 94 HB	1	
8	5001000662	SCREW	BIN-MC 3X4	5	
7	5004000197	SCREW	BIN-TT 3X10	12	
6	5001000579	SCREW	BIN-MC 3X8	4	
5	6101222100	MAIN FRAME ASSY	SECC T-0.8	1	
4	6220086300	LENS LED	ACRYL	1	
3	6215242001	KNOB OSD TV	ABS 94 HB	1	
2	6201323301	COVER PANEL	ABS 94 HB	1	
1	6201323201	COVER FRONT	ABS 94 HB	1	

DRAWN BY	PLANNED BY	CHECKED BY	APPROVED BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm (INCHES) TOLERANCES ARE: LINEAR ± ANGLES ± RADII UNLESS NOTED±	ANGLE 3rd	TITLE	REV
J.H.PARK			J.S.KIM		SCALE N/S	EXPLODED VIEW	00
2003.05.27			2003.05.27				
IMAGEQUEST				MDL L19T	SIZE A2	DWG NO.	SHEET 1/1
				REF NO.			

FILE NAME = EXPLODED VIEW

TAMP OST-2